

New Jersey's Life Sciences Industry Cluster

Prepared by:
New Jersey Department of Labor & Workforce Development
Office of Research & Information
Bureau of Labor Market Information
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DEPARTMENT OF LABOR AND
WORKFORCE DEVELOPMENT



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THE GOAL OF THIS REPORT IS TO GET AN “IDEA” OF WHAT LIFE SCIENCES MEANS TO NEW JERSEY

Identify the types of industries and establishments that make up the life sciences industry cluster based on a standard industry classification system.

Describe any similarities and differences among its components with regard to such variables as employment, wage, occupation type, education, and demographic characteristics.

Examine any present distinctions within the cluster and its components that give New Jersey a competitive advantage compared to neighboring states, regions or the nation, or show areas where New Jersey could improve to add to the state’s economy.

Analyze the current state of the life sciences industry cluster and provide an outlook for employment into the future.



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LIFE SCIENCES INDUSTRY CLUSTER: OVERVIEW



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

MAJOR INDUSTRY COMPONENTS

New Jersey's Life Sciences employment in 2016 was identified within three primary components: pharmaceuticals (40.8%), biotechnology-R&D (38.5%) and medical device manufacturing (20.7%). The breakdown of the major segments are:

Pharmaceuticals

- Pharmaceutical and medicine manufacturing
- Soap, cleaning compound, and toiletry manufacturing
- Druggists' goods merchant wholesalers



Establishments that are primarily engaged in manufacturing or distribution of drug related products.

Consists of services related establishments primarily engaged in scientific research, development, analytic and/or diagnostics.



Biotechnology (R&D)

- Scientific research and development services
- Medical and diagnostic laboratories

Medical Devices

- Electronic instrument manufacturing
- Medical equipment and supplies manufacturing



Establishments primarily engaged in manufacturing medical equipment and supplies.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

MAJOR NEW JERSEY EMPLOYERS

Some of New Jersey's well-known employers in this cluster include:

Pharmaceuticals

- Bayer HealthCare Pharmaceutical
- Bristol-Myers Squibb Co.
- Daiichi Sankyo
- Ethicon, Inc.
- Glaxosmithkline
- Johnson & Johnson
- Merck & Co. Inc.
- Novartis Pharmaceuticals
- Pfizer, Inc.
- Sanofi, U.S.
- Teva Pharmaceuticals
- West-Ward Pharmaceuticals

Biotechnology (R&D)

- Celerion, Inc.
- Chugai Pharma USA
- Community Medical Center
- Collagen Matrix, Inc.
- Covance, Inc.
- Immunomedics, Inc.
- Lab Corp
- PAREXEL International
- Progenitor Cell Therapy
- PTC Therapeutics, Inc.
- Quest Diagnostics
- Raritan Bay Medical
- Sandoz, Inc.

Medical Devices

- Abbott Laboratories
- Becton Dickinson & Co.
- C. R. Bard, Inc.
- Honeywell International, Inc.
- Integra Life Sciences
- Micro Corporation
- Ortho McNeil Pharma
- Oticon, Inc.
- Roche Molecular Systems, Inc.
- Safilo USA, Inc.
- Sivantos, Inc.
- Stryker Orthopedics

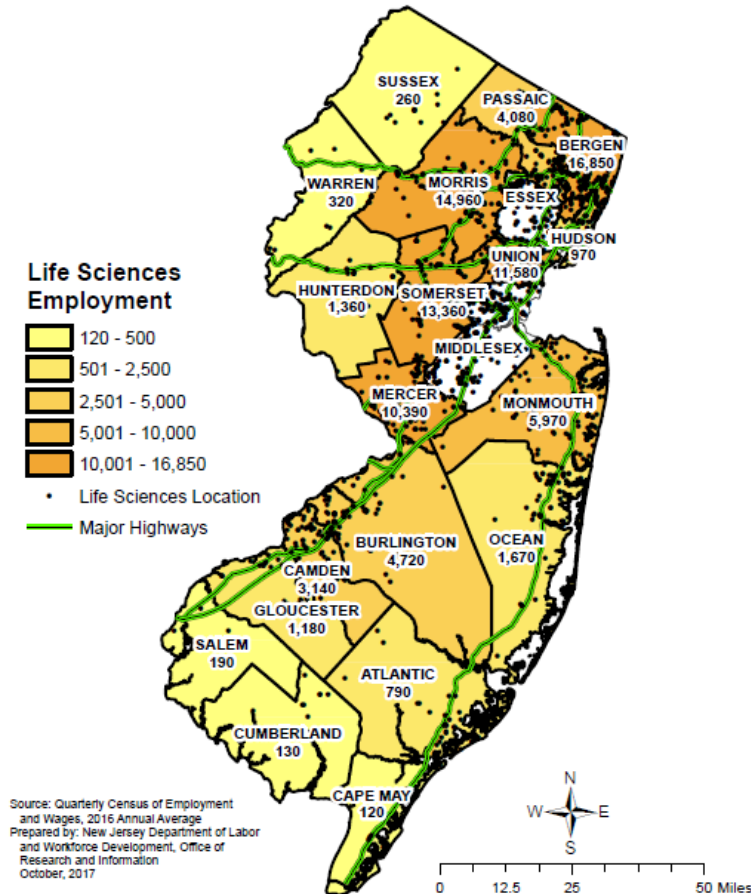


NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER OVERALL STATE IMPACT

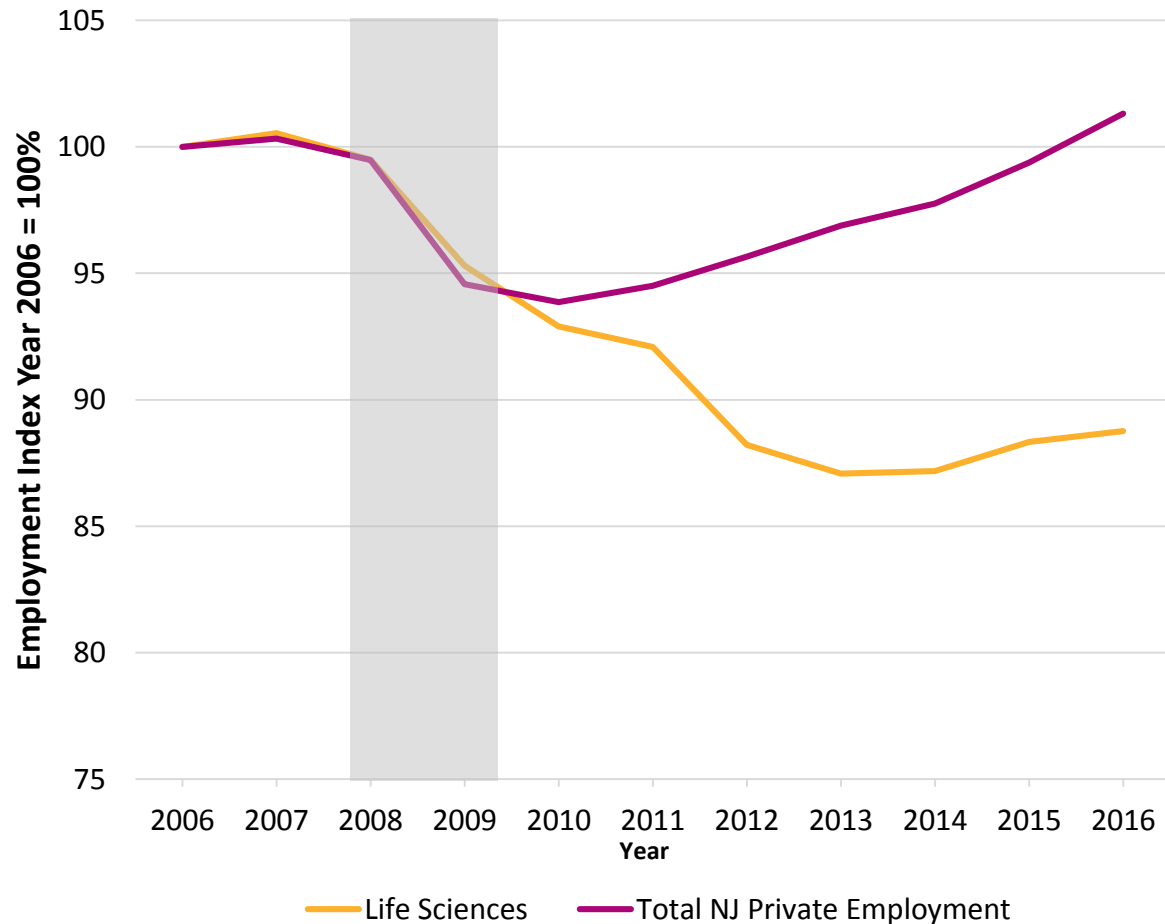
*Life Sciences Employment and Establishment Locations
New Jersey, 2016*

The Life Sciences Cluster has an enormous impact on providing high quality jobs and adding significant value to the State's economic activities. Recent New Jersey highlights included:

- **Employment Total:** averaged 117,260 or 3.5 percent of all private sector workers in the state for 2016. Nationally, the proportion was just 1.9 percent.
- **Well-paying Jobs:** Paid over \$16.5 billion in 2016 annual payrolls; 7.8 percent of the state's total wages.
- **Establishments total:** over 3,200 in 2016. Over a five year period (2011-2016) – even with numerous industry related reorganizations – New Jersey's drug & pharmaceutical component still grew (by +10.5%).



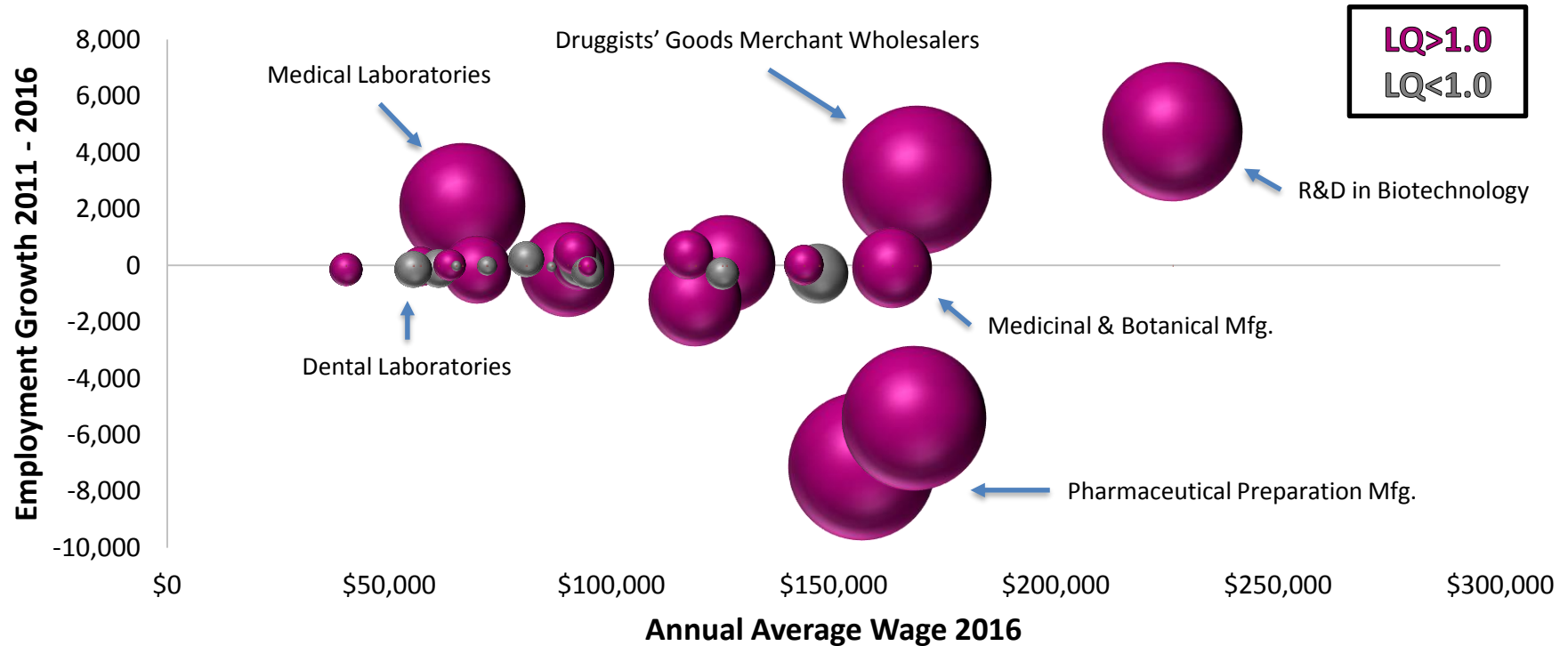
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER ALL PRIVATE SECTOR VS. INDUSTRY CLUSTER EMPLOYMENT



- After increasing slightly from 2006 to 2007 (+0.5%), the NJ life sciences industry experienced a steady decline from 2007 to 2013 (-13.7%), flattened out from 2013 to 2014 (+0.1%), increased from 2014 to 2016 (+1.6%), and is currently below the 2006 employment level (-11.2%).
- Total statewide private sector employment has led life sciences employment from 2010 to 2016 and is currently above the 2006 employment level by 1.3 percent.

Gray area denotes U.S. economic recession as defined by the National Bureau of Economic Research (NBER)

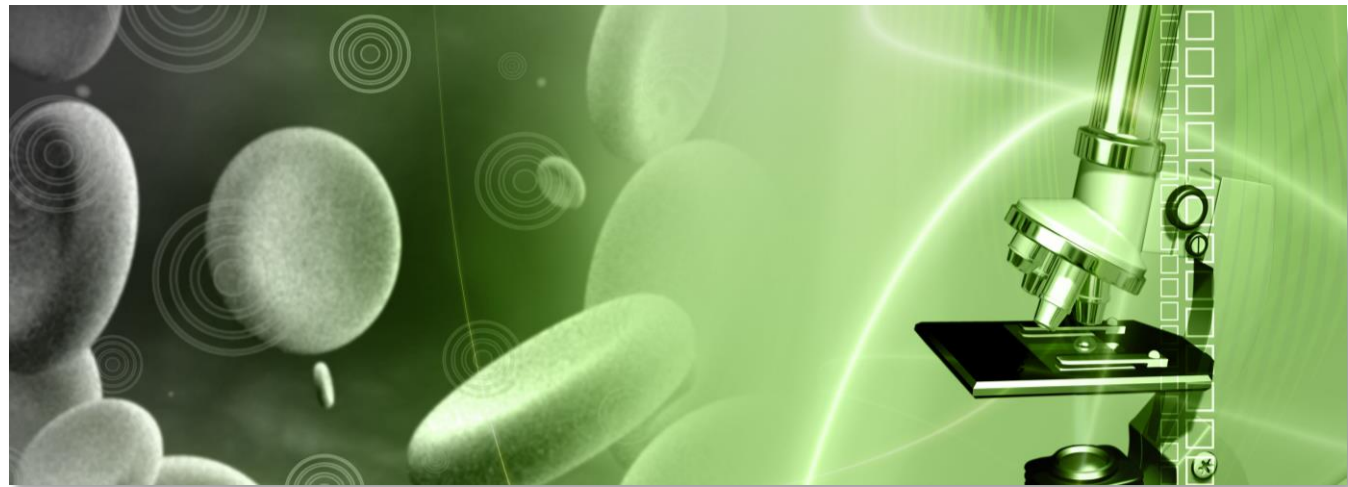
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER EMPLOYMENT SIZE, GROWTH, SALARY & LOCATION QUOTIENT



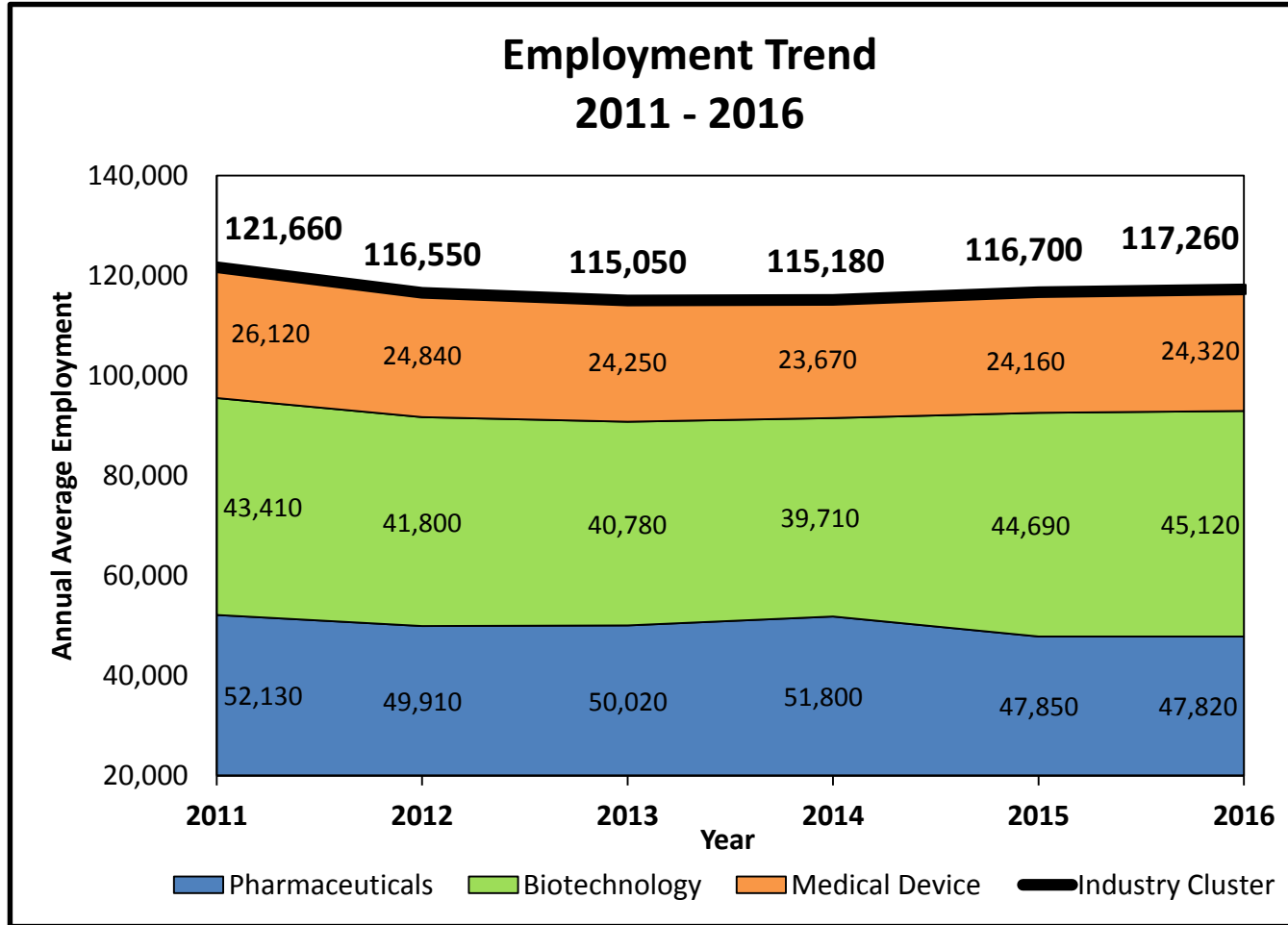
The above bubble graph has four elements:

1. Total 2016 employment - represented by the size of the bubble.
2. 2011-2016 employment growth - shown on the Y-axis, or vertical position.
3. 2016 annual average wages - shown on the X-axis, or horizontal position.
4. Location quotient - indicated by the color of the bubble. The location quotient compares the concentration of the industry subsectors in the state to those of the nation. Industries with a location quotient **above 1** are known as "basic industries" which (in theory) export a good or service from the state and in return, bring in wealth.

LIFE SCIENCES INDUSTRY CLUSTER: EMPLOYMENT ANALYSIS



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER 5-YEAR EMPLOYMENT TREND

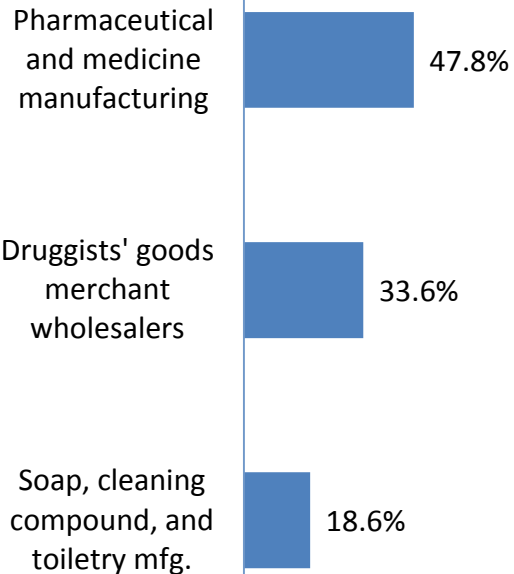


- With an average of 117,260 workers employed in this NJ cluster in 2016, the employment over the 5-year period experienced a decline of 3.6 percent.
- The pharmaceutical component experienced the largest total percent loss over the 5-year period (-8.3%).

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER SUB-SECTOR EMPLOYMENT

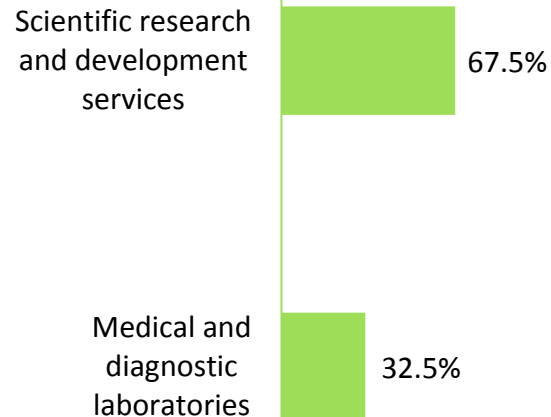
In 2016, the 117,260 jobs within this New Jersey cluster were concentrated in:

Pharmaceuticals



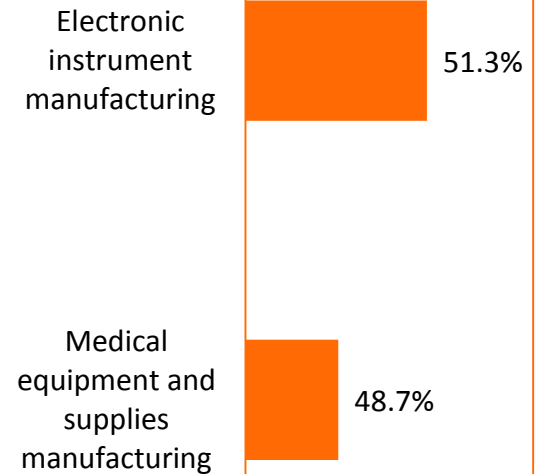
- 47,820 jobs
- The pharmaceuticals component accounted for 40.8 percent of the life sciences industry cluster employment.

Biotechnology (R&D)



- 45,120 jobs
- Scientific research and development services accounted for more than 30,440 employment.

Medical Devices

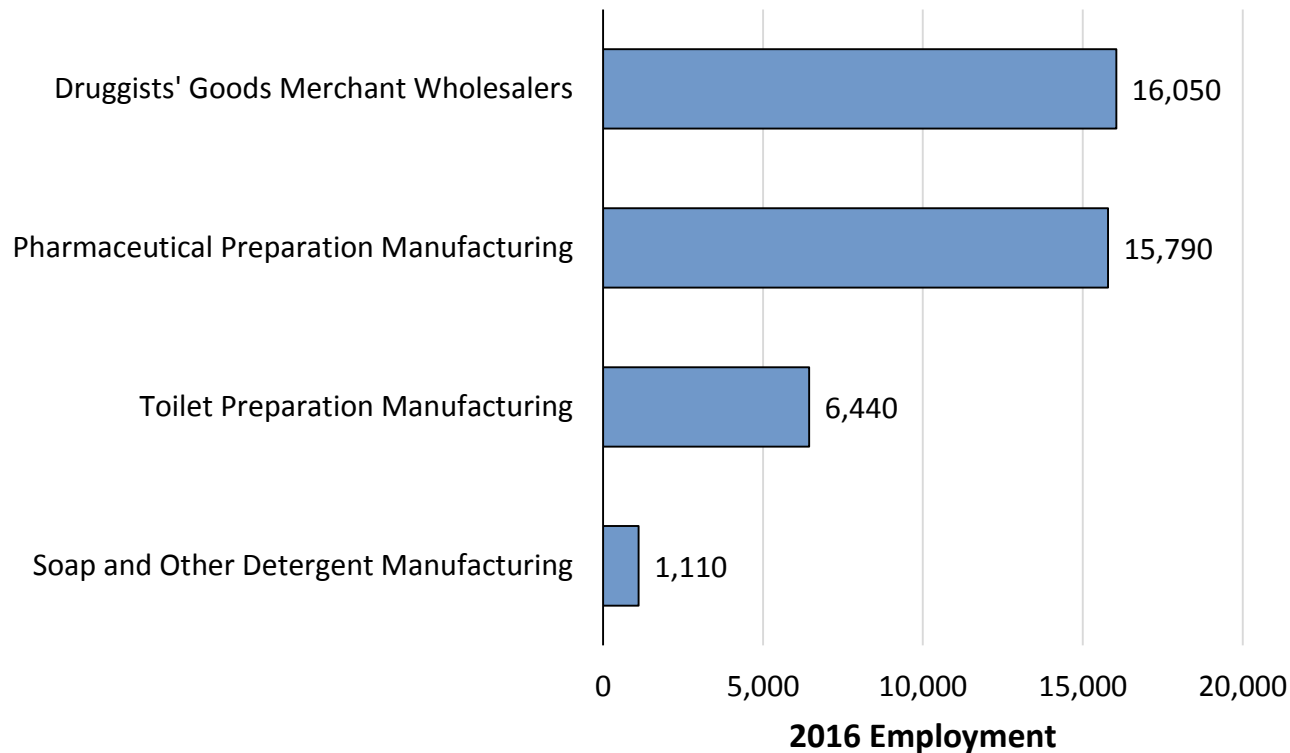


- 24,320 jobs
- Medical devices is the smallest of the three components and makes up 20.7 percent of the life sciences industry.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

PHARMACEUTICALS INDUSTRY TOP EMPLOYMENT, 2016

Pharmaceuticals Industry



Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., in-vitro diagnostic substance mfg., and polish and sanitation good manufacturing are not included in the chart above.

- Made up 40.8 percent of the life sciences industry cluster's employment in 2016.
- Pharmaceutical & medicine manufacturing (-31.1%) and soap, cleaning compound, and toiletry manufacturing (-2.2%) both experienced a decline from 2011 to 2016 while druggists' goods merchant wholesalers experienced significant growth (+23.2%).



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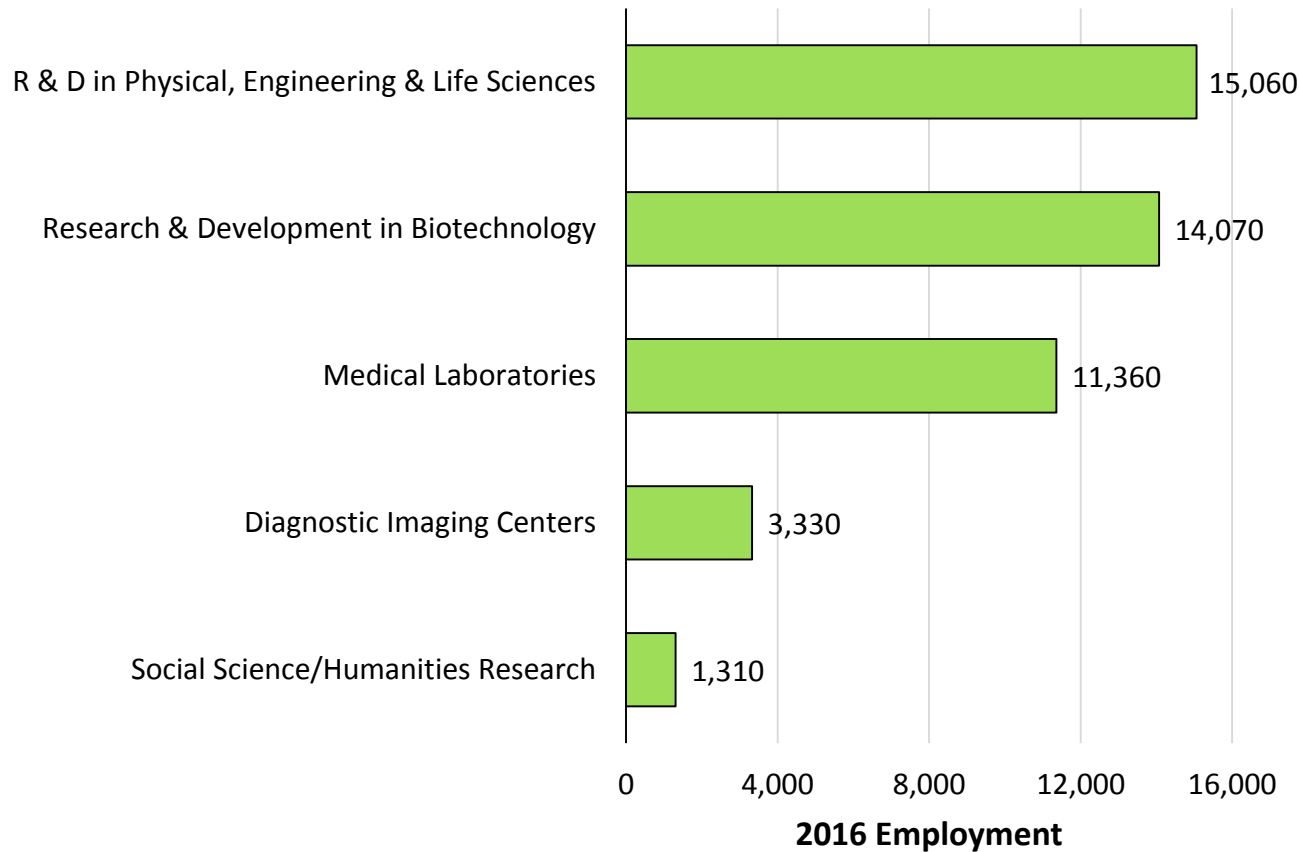


Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, August 2018

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

BIOTECHNOLOGY INDUSTRY TOP EMPLOYMENT, 2016

Biotechnology

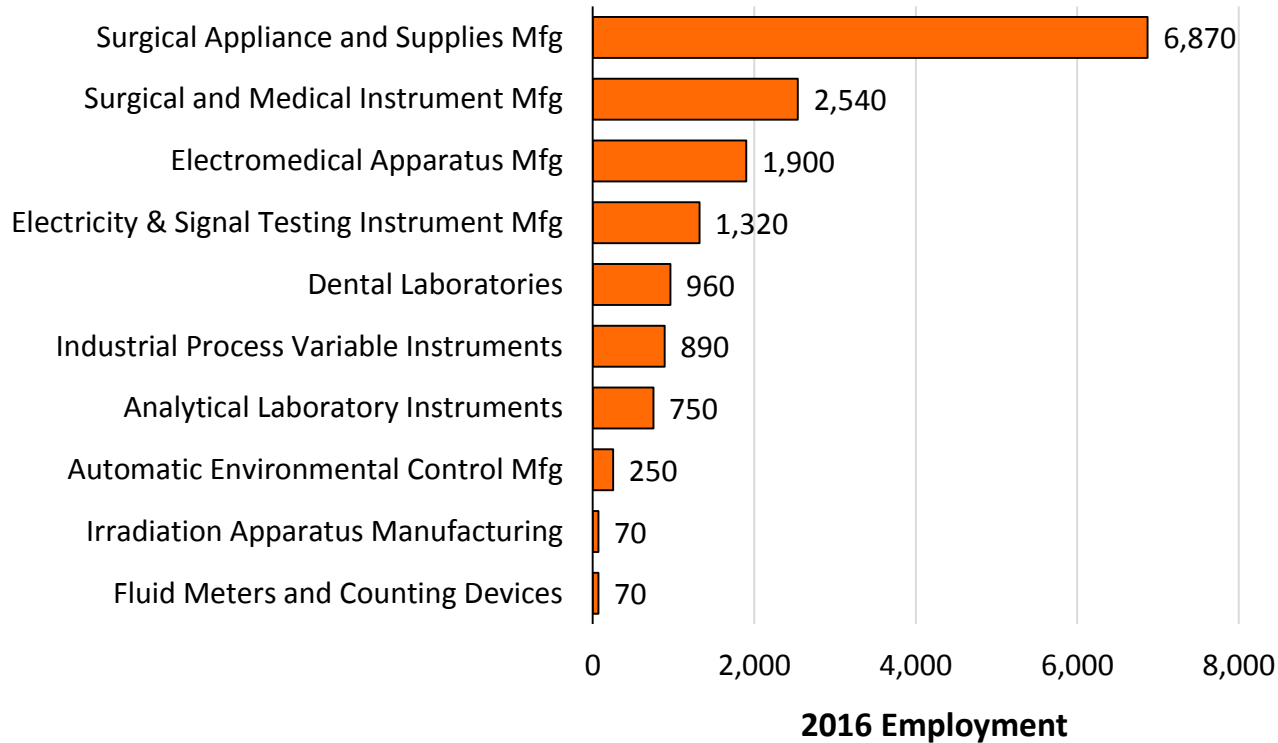


- Accounted for 38.5 percent of life sciences industry cluster's employment in 2016.
- Scientific R&D industry service sectors declined (-0.8%) over the 5-year period from 2011 to 2016.
- Medical and diagnostic laboratories experienced significant growth over the same period (+15.3%).

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

MEDICAL DEVICES INDUSTRY TOP EMPLOYMENT, 2016

Medical Devices



Due to disclosure issues, search, detection & navigation instruments, other measuring & controlling devices, dental equipment & supplies mfg., and ophthalmic goods mfg. are not included in the chart above.

- Accounted for 20.7 percent of the life sciences industry cluster's employment in 2016.
- Electronic instrument manufacturing slightly grew (+0.8%) over the 5-year period from 2011 to 2016 while medical equipment & supplies manufacturing declined (-3.6%) during the same period.



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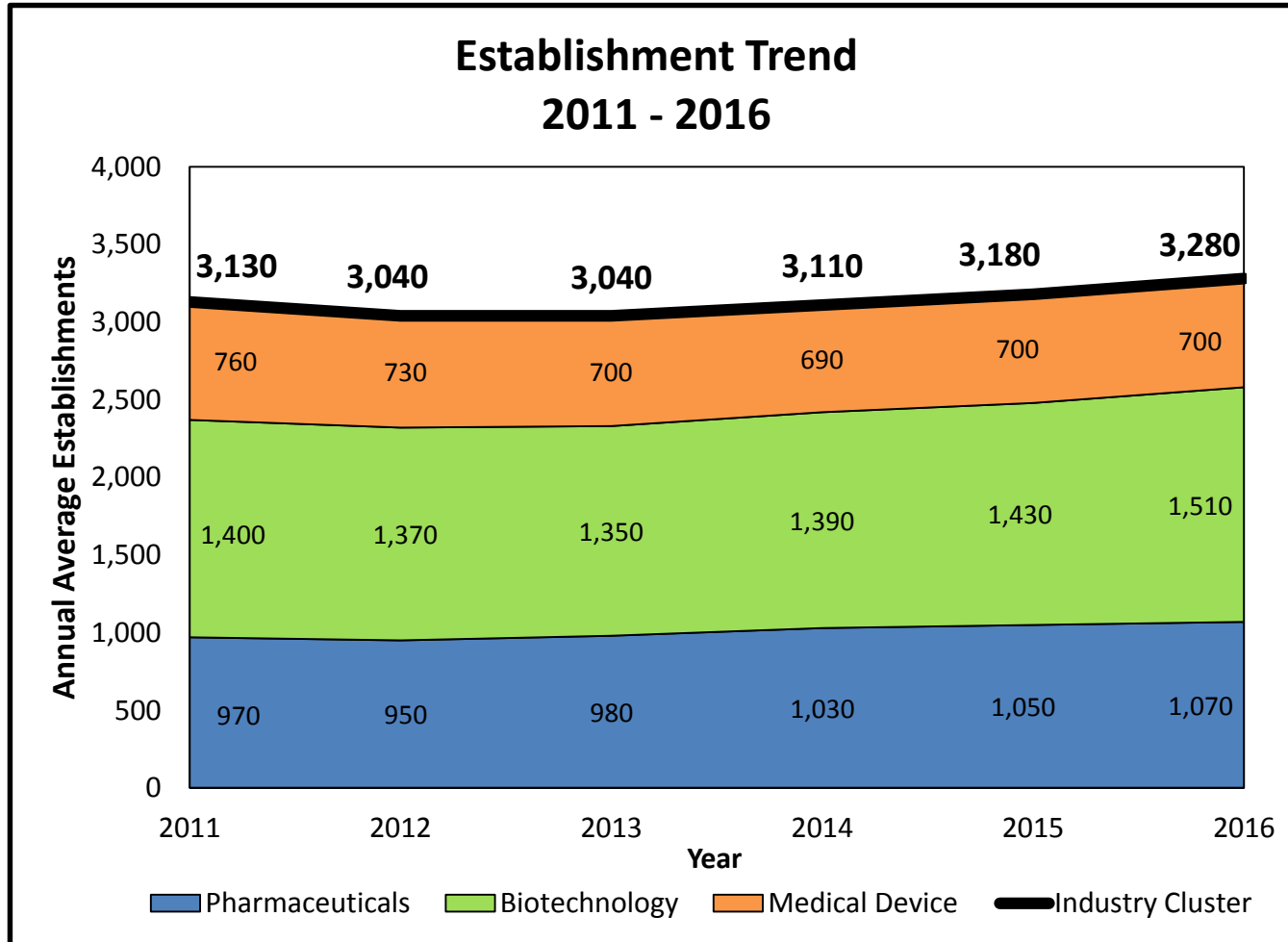
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Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
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LIFE SCIENCES INDUSTRY CLUSTER: ESTABLISHMENT ANALYSIS



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER 5-YEAR ESTABLISHMENT TREND



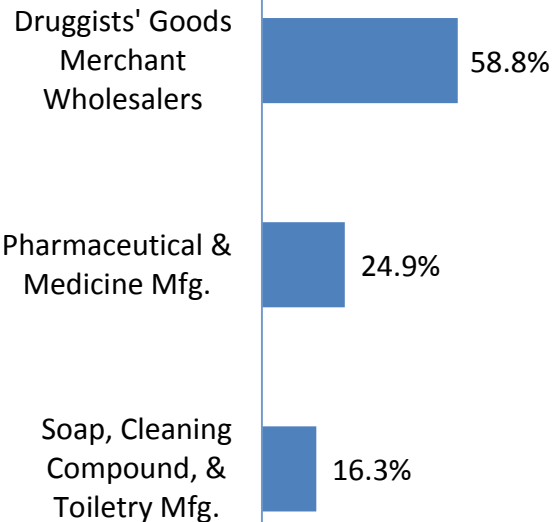
- Establishments in this cluster totaled 3,280 in 2016 after experiencing a notable growth (+4.8%) from 2011 – 2016.
- Pharmaceuticals has seen an upward trend from 2011 to 2016, adding an additional 100 establishments.



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER SUB-SECTOR ESTABLISHMENTS

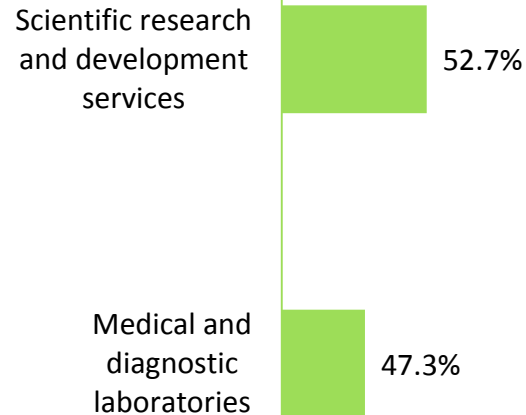
In 2016, New Jersey had 3,280 establishments in this cluster engaged in:

Pharmaceuticals



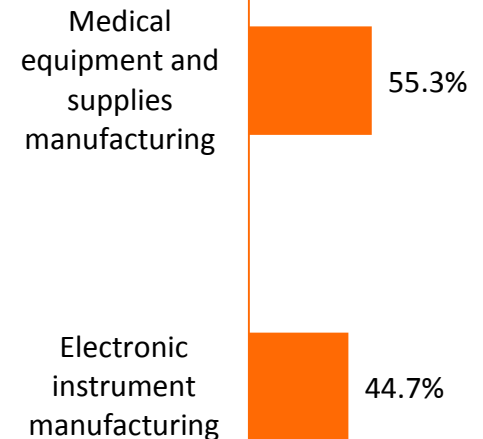
- 1,070 establishments
- The pharmaceutical component accounts for 1/3 of all life sciences industry establishments.

Biotechnology (R&D)



- 1,510 establishments
- R&D related sub-sectors accounted for 46.0% of all life sciences establishments.

Medical Devices



- 700 establishments
- The medical devices component has the least establishments of all three life sciences industry components.



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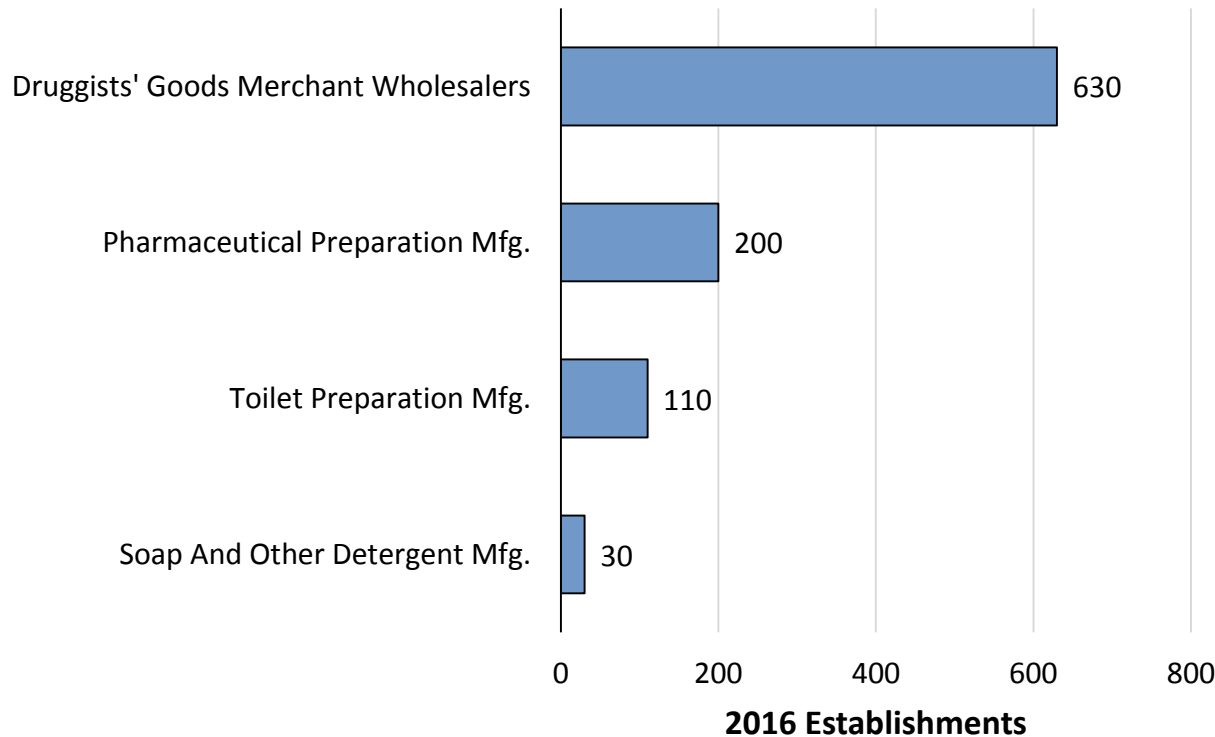
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Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
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NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

PHARMACEUTICALS INDUSTRY TOP ESTABLISHMENTS, 2016

Pharmaceuticals Industry



Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., in-vitro diagnostic substance mfg., and polish and sanitation good manufacturing are not included in the chart above.

- Accounted for 32.6 percent of the life sciences industry cluster's establishments in 2016.
- Establishments in the soap, cleaning compound, and toiletry manufacturing industries (-19.0%) declined from 2011 to 2016, while pharmaceutical & medicine manufacturing (+10.7%) and druggists' goods merchant wholesalers (+21.6%) realized growth.



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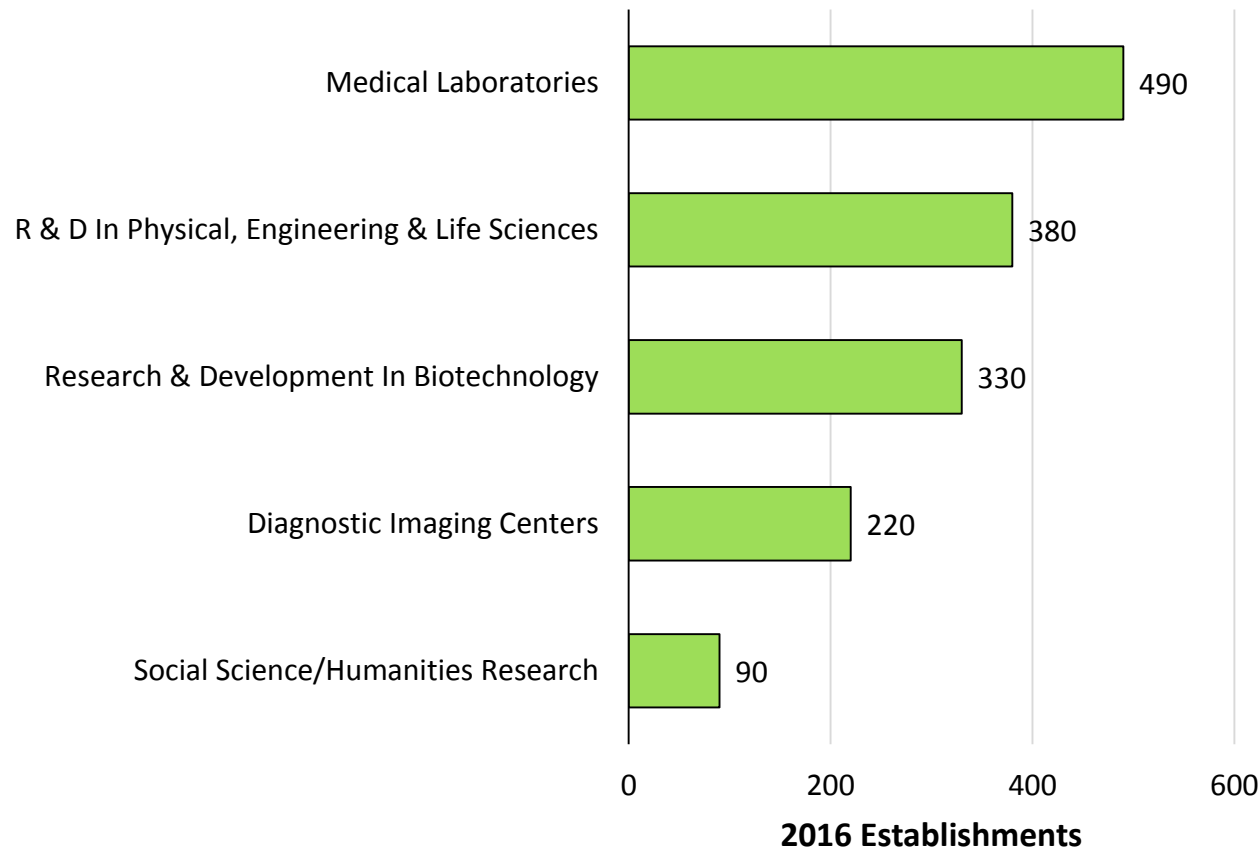


Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
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NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

BIOTECHNOLOGY INDUSTRY TOP ESTABLISHMENTS, 2016

Biotechnology (R&D)



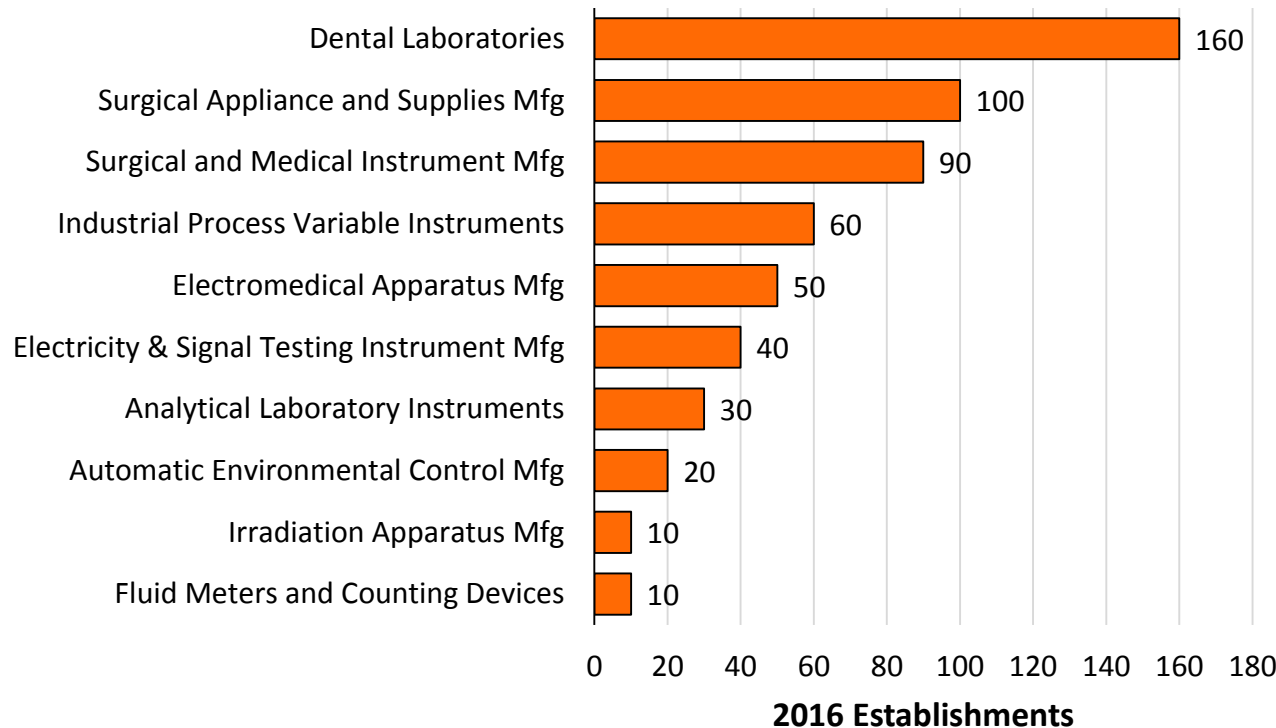
- Made up 46.0 percent of all establishments in the life sciences industry cluster in 2016 with 1,510 establishments.
- Scientific R&D industry service sectors (+10.5%) and medical diagnostic laboratories (+5.6%) both experienced growth from 2011 to 2016.



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

MEDICAL DEVICES INDUSTRY TOP ESTABLISHMENTS, 2016

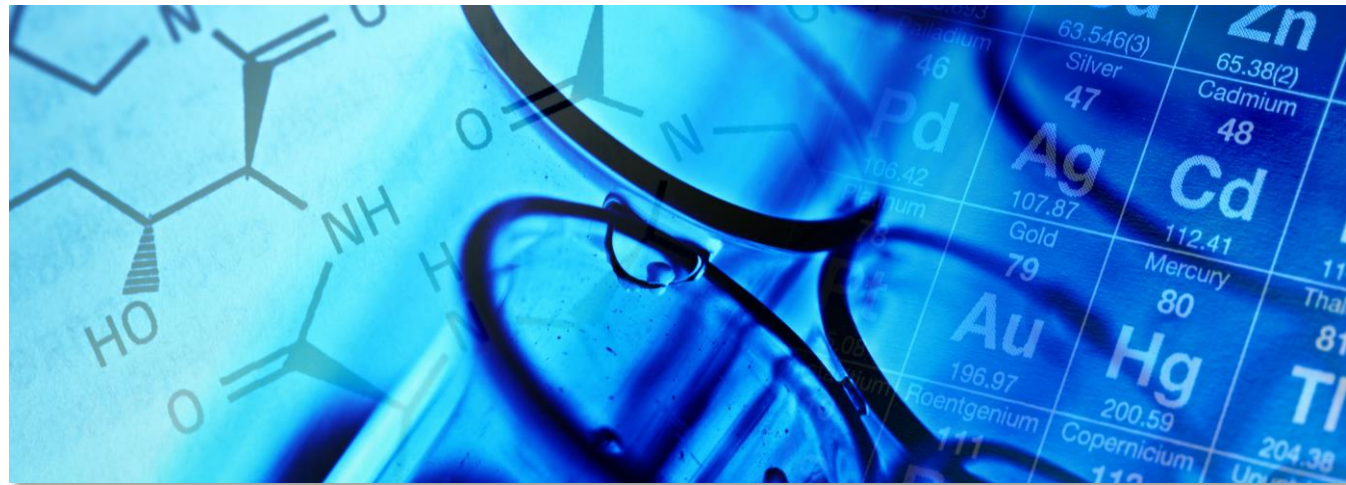
Medical Devices



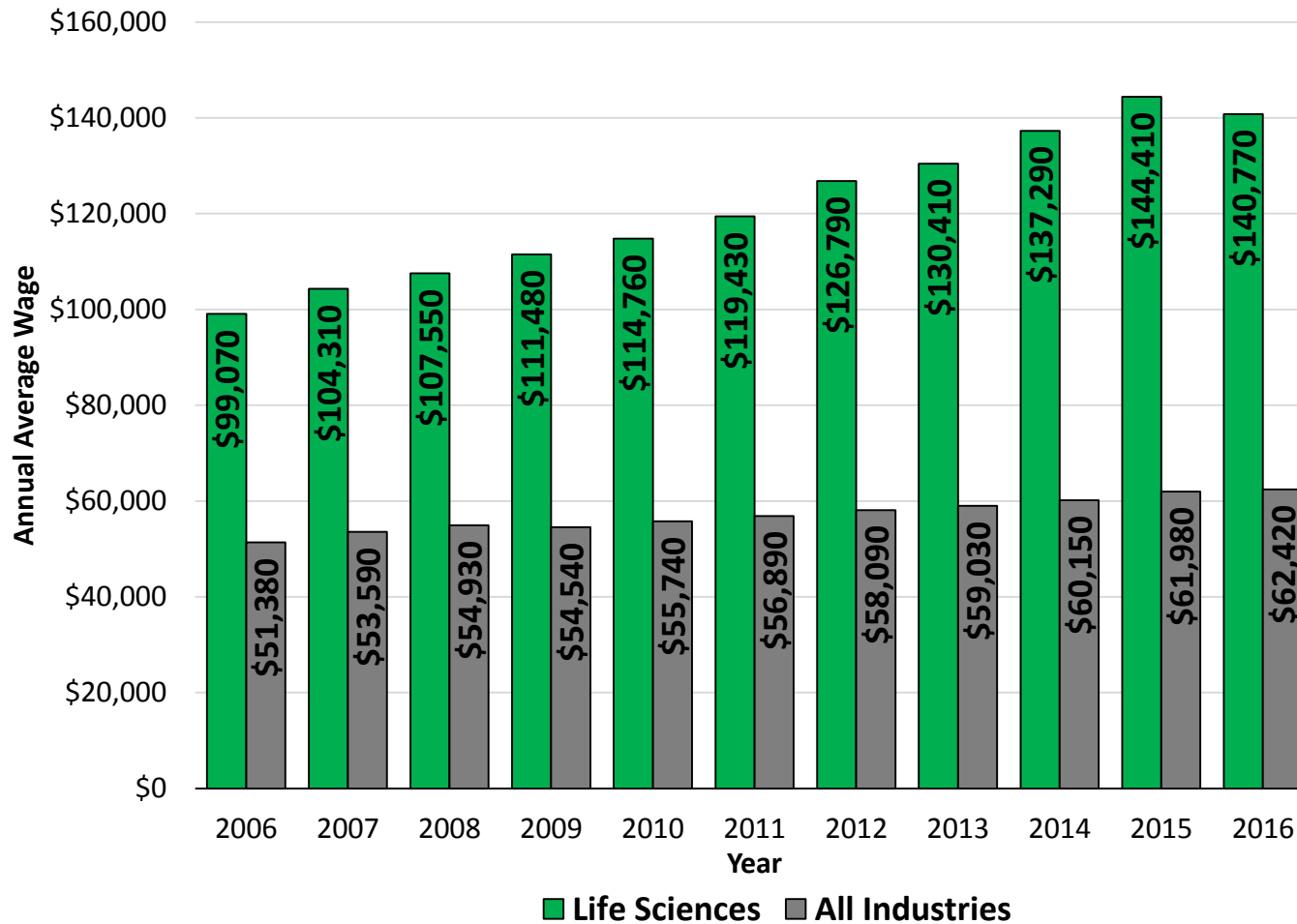
Due to disclosure issues, search, detection & navigation instruments, other measuring & controlling devices, dental equipment & supplies mfg., and ophthalmic goods mfg. are not included in the chart above.

- Represented 21.4 percent of the life sciences industry cluster's establishments in 2016 (700).
- Electronic instrument manufacturing (-8.0%) and medical equipment and supplies manufacturing (-12.2%) both declined from 2011 to 2016.

LIFE SCIENCES INDUSTRY CLUSTER: ANNUAL AVERAGE WAGE ANALYSIS



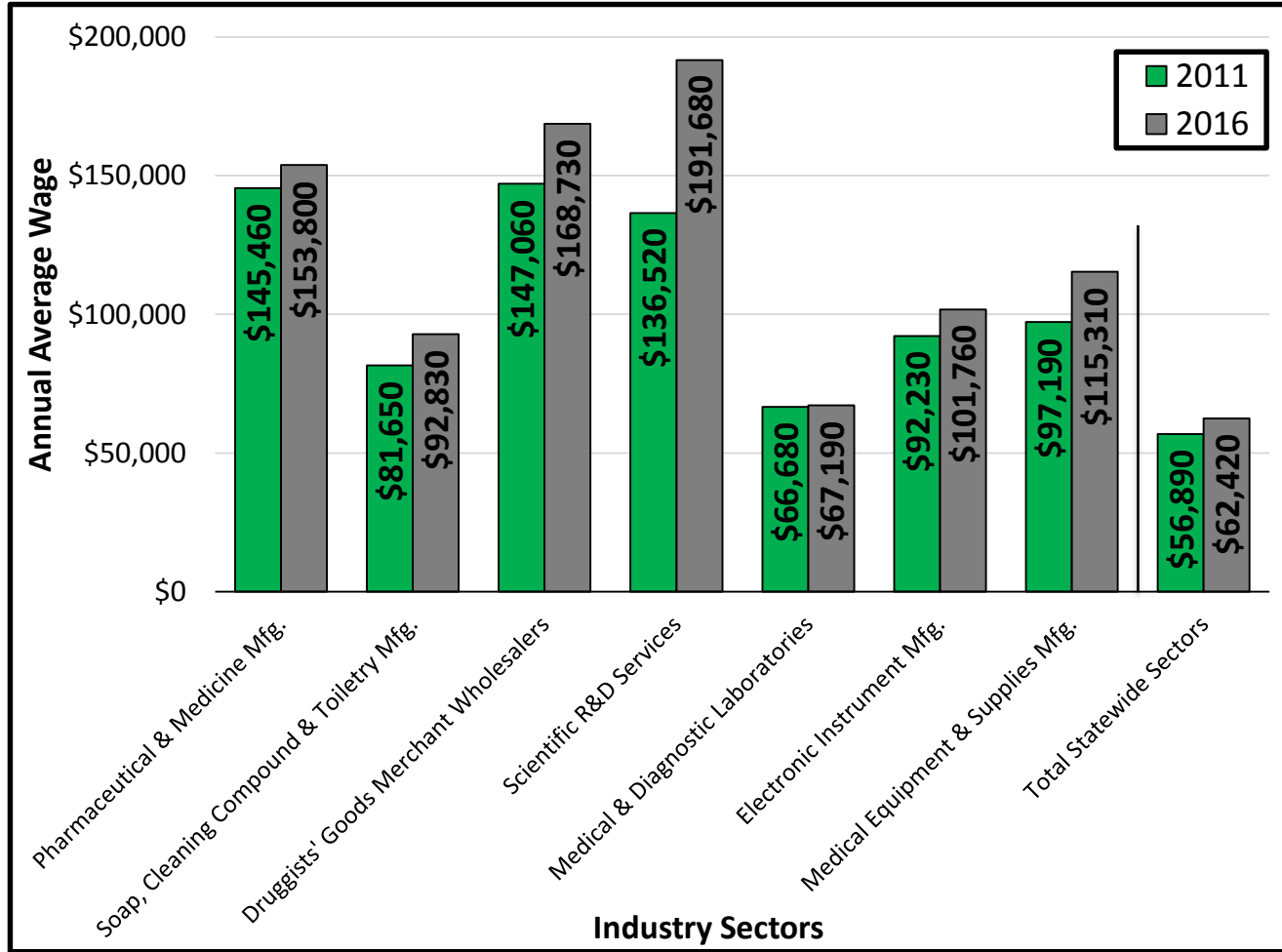
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER ALL PRIVATE SECTOR VS. LIFE SCIENCES ANNUAL AVERAGE WAGE



- Wages in the life sciences cluster have averaged 211.8% of the statewide annual average wage since 2006.
- Annual average wages for the cluster have risen +42.1% over the ten year period from 2006 to 2016.



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER 5-YEAR AVERAGE ANNUAL WAGES TREND



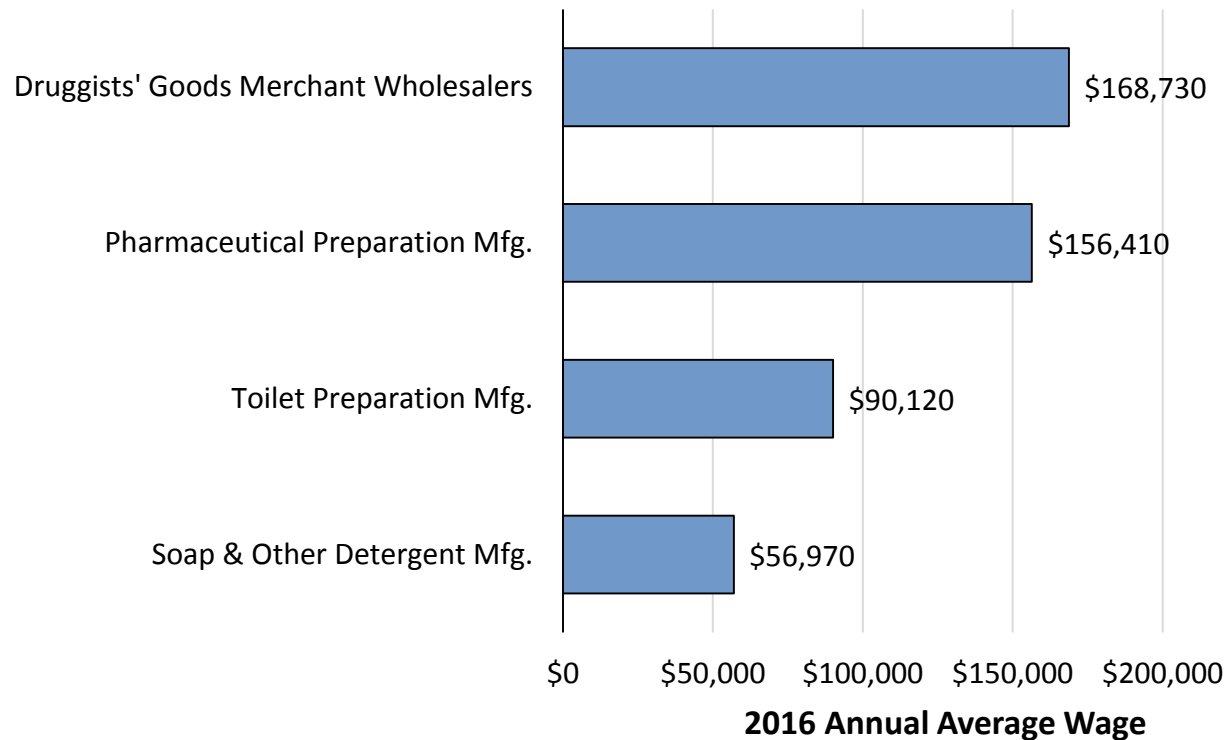
- This cluster's average annual wage was \$140,770 in 2016, which was 125.5 percent higher than the state's total private sector's average annual wage of \$62,420.
- All three of this cluster's components had 2016 wages that were significantly higher than the state's total average annual wage.



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

PHARMACEUTICALS INDUSTRY TOP ANNUAL AVERAGE WAGE, 2016

Pharmaceuticals Industry



Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., in-vitro diagnostic substance mfg., and polish and sanitation good manufacturing are not included in the chart above.

- Annual average wages increased \$12,721 (or +9.4%), from \$134,720 in 2011 to \$147,440 in 2016.
- Increases in the industry sectors ranged from soap, cleaning, compound, toiletry and pharmaceutical manufacturing (+8.1%) to druggists' goods merchants wholesalers (+14.7%) in annual average wages from 2011 to 2016



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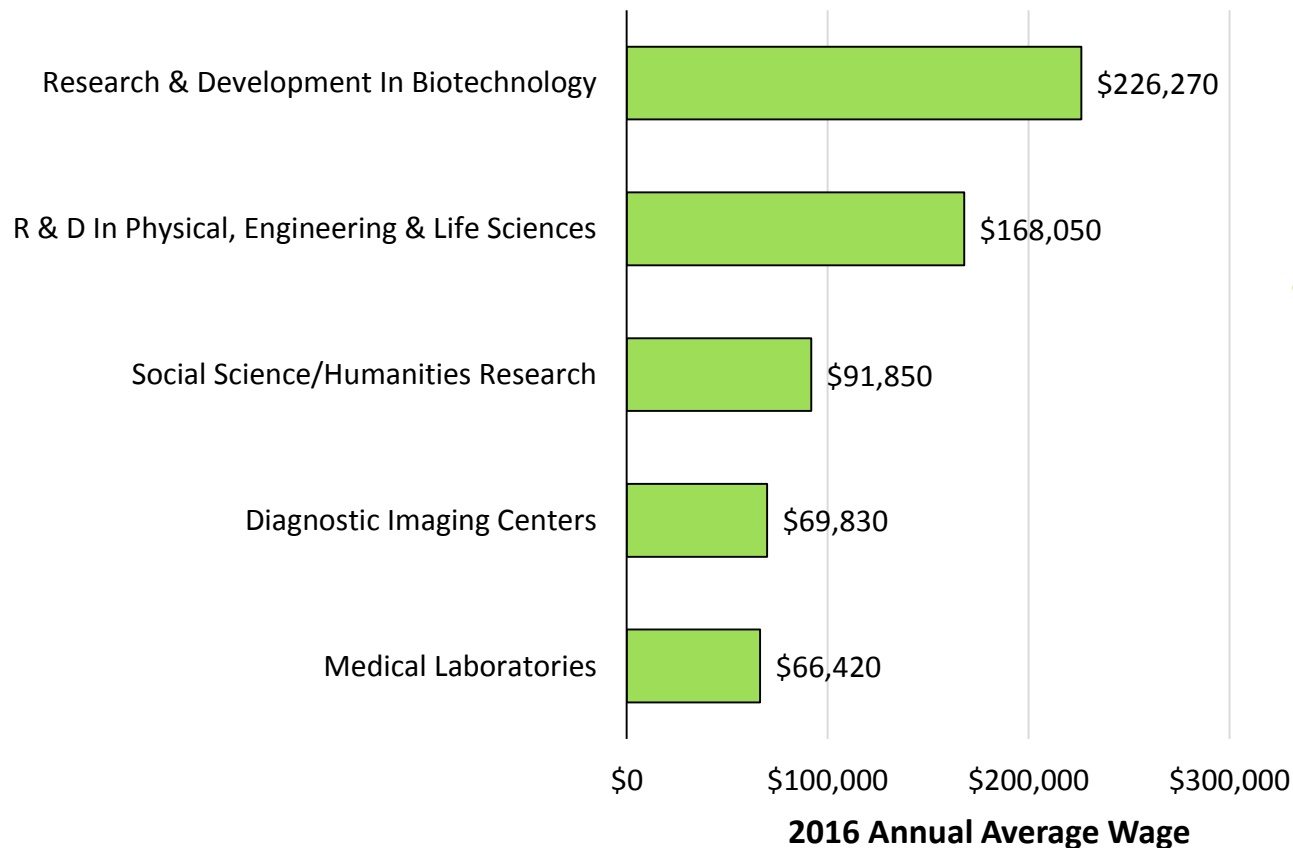
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BIOTECHNOLOGY INDUSTRY TOP ANNUAL AVERAGE WAGE, 2016

Biotechnology (R&D)

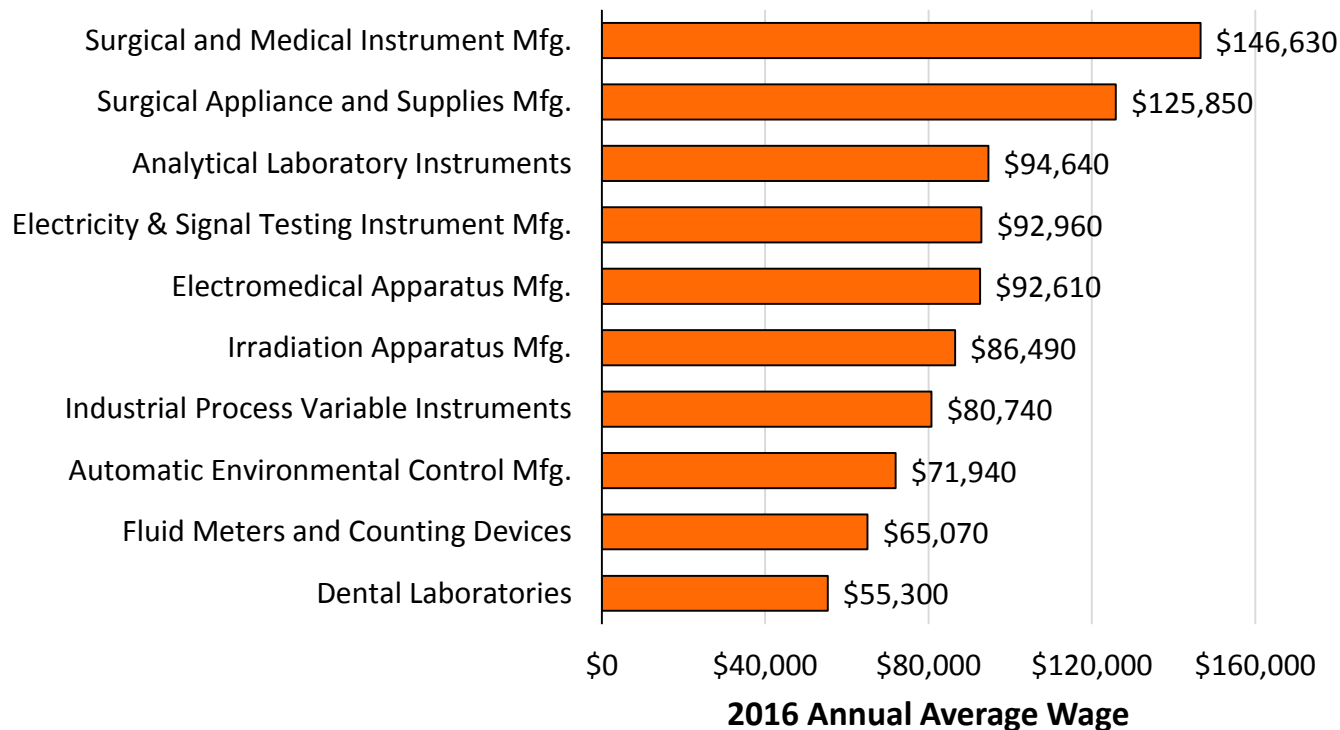


- Annual average wages were \$151,165 in 2016, up +30.3 percent from \$116,031 in 2011.
- The industry sectors experienced increases ranged from medical & diagnostic laboratories (+0.8%) to scientific R&D services (+40.4) over the same 5-year period.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

MEDICAL DEVICES INDUSTRY TOP ANNUAL AVERAGE WAGE, 2016

Medical Devices



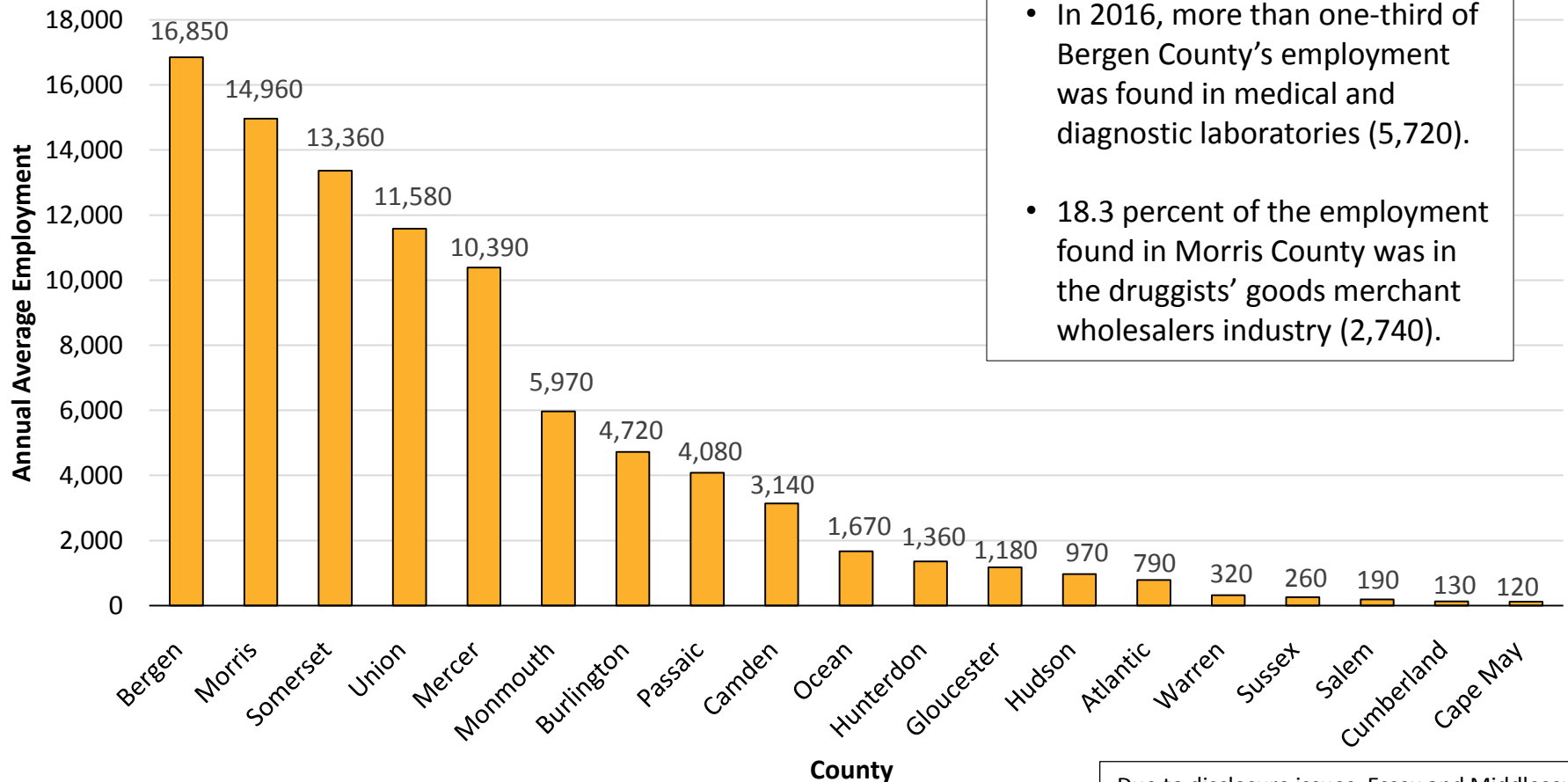
Due to disclosure issues, search, detection & navigation instruments, other measuring & controlling devices, dental equipment & supplies mfg., and ophthalmic goods mfg. are not included in the chart above.

- Annual average wages were \$112,722 in 2016, up +16.2% from \$97,026 in 2011.
- Growth for the industry sectors ranged from +10.9% (electronic instrument manufacturing) to +18.6% (medical equipment and supplies manufacturing) over the 5-year period.

LIFE SCIENCES INDUSTRY CLUSTER: REGIONAL AND COUNTY ANALYSIS



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER EMPLOYMENT BY COUNTY, 2016 ANNUAL AVERAGES



- In 2016, more than one-third of Bergen County's employment was found in medical and diagnostic laboratories (5,720).
- 18.3 percent of the employment found in Morris County was in the druggists' goods merchant wholesalers industry (2,740).

Due to disclosure issues, Essex and Middlesex Counties are not included in the chart above.



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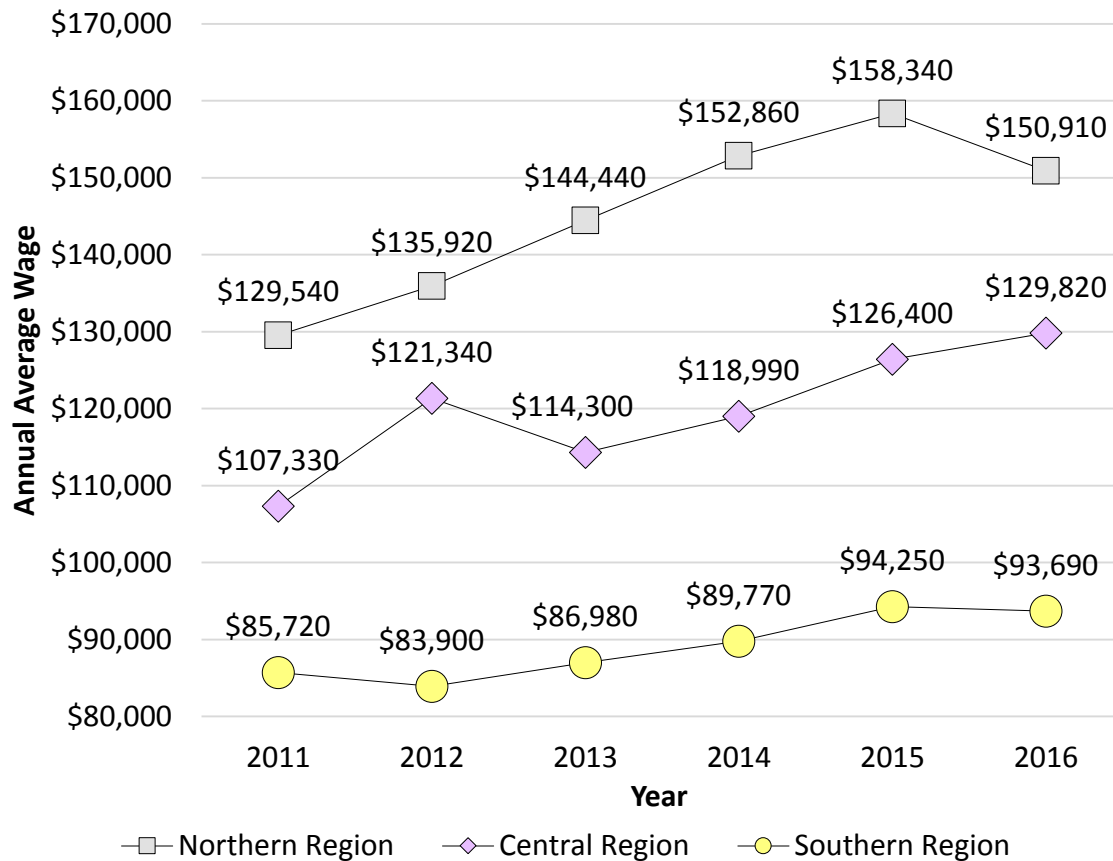
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NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

LIFE SCIENCES ANNUAL AVERAGE WAGE BY REGION 5-YEAR TREND

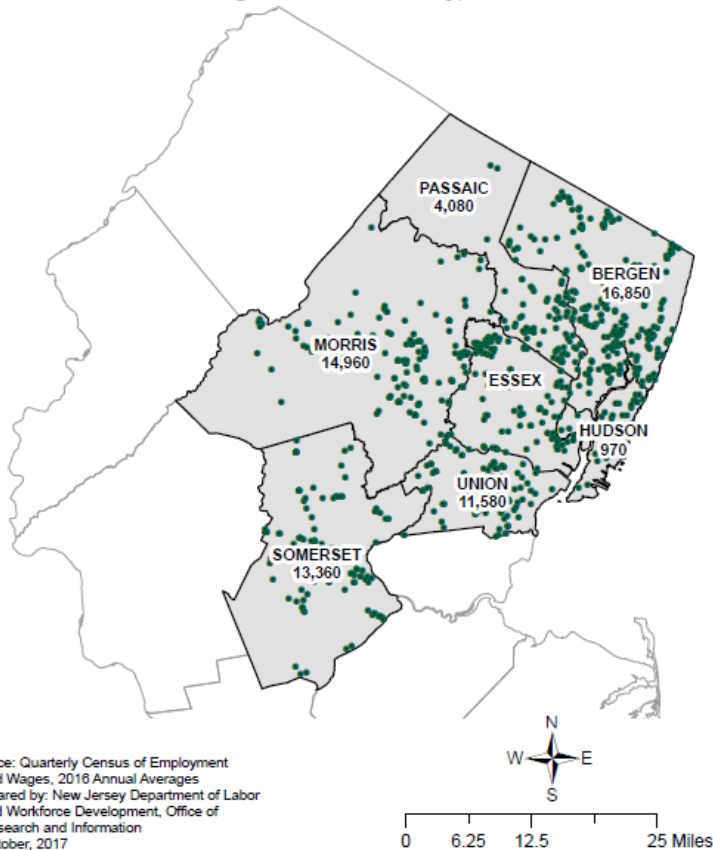
Life Sciences Annual Average Wage Trend



- Northern Region - (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union, and Warren Counties) – Annual average wage increased 16.5 percent from 2011 - 2016.
- Central Region – (Mercer, Middlesex, Monmouth, and Ocean Counties) – Annual average wage experienced a 21.0 percent growth over the five-year period.
- Southern Region – (Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Salem Counties) –Smallest annual average wage increase over the period amongst the regions (+9.3%).

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER COUNTIES IN THE NORTHERN REGION

*Life Sciences Employment and Establishment Locations
Northern Region of New Jersey, 2016*



Due to disclosure issues, Essex County life sciences employment is not included in the map to the left.

The highlighted region to the left consists of Essex, Passaic, Morris, Somerset, Union, Hudson, and Bergen Counties.

- **Establishments** – A majority of the Life Sciences industry related establishments can be found along major highways in NJ within a close proximity to New York, NY.
- **Employment** – Represent more than half of the life sciences employment in New Jersey in 2016.
- **Average Wage** – The average wage for these counties in life sciences related industries is comparatively above the statewide total average in this cluster (\$151,290 vs. \$140,770).



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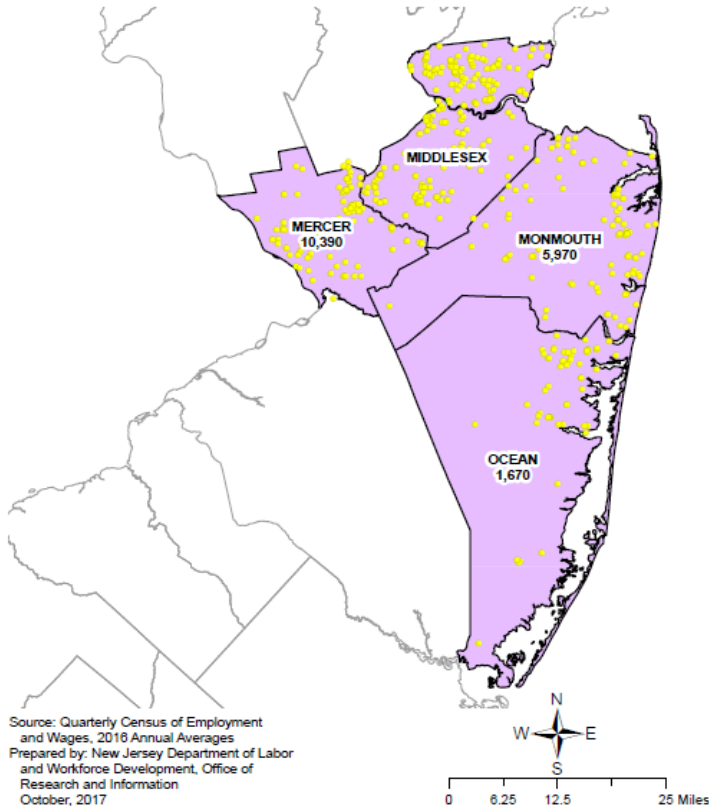


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Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
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NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER COUNTIES IN THE CENTRAL REGION

Life Sciences Employment and Establishment Locations
Central Region of New Jersey, 2016



Due to disclosure issues, Middlesex County life sciences employment is not included in the map to the left.

The highlighted region to the left consists of Mercer, Middlesex, Monmouth, and Ocean Counties.

- **Establishments** - These counties account for more than a quarter of all establishments in the life sciences industry cluster in New Jersey.
- **Employment** – Employment for these five counties makes up nearly one third of employment in the life sciences industry cluster.
- **Average Wage** – The average wage for these counties in life sciences related industries is relatively below the statewide total average in this cluster (\$129,820 vs. \$140,770).



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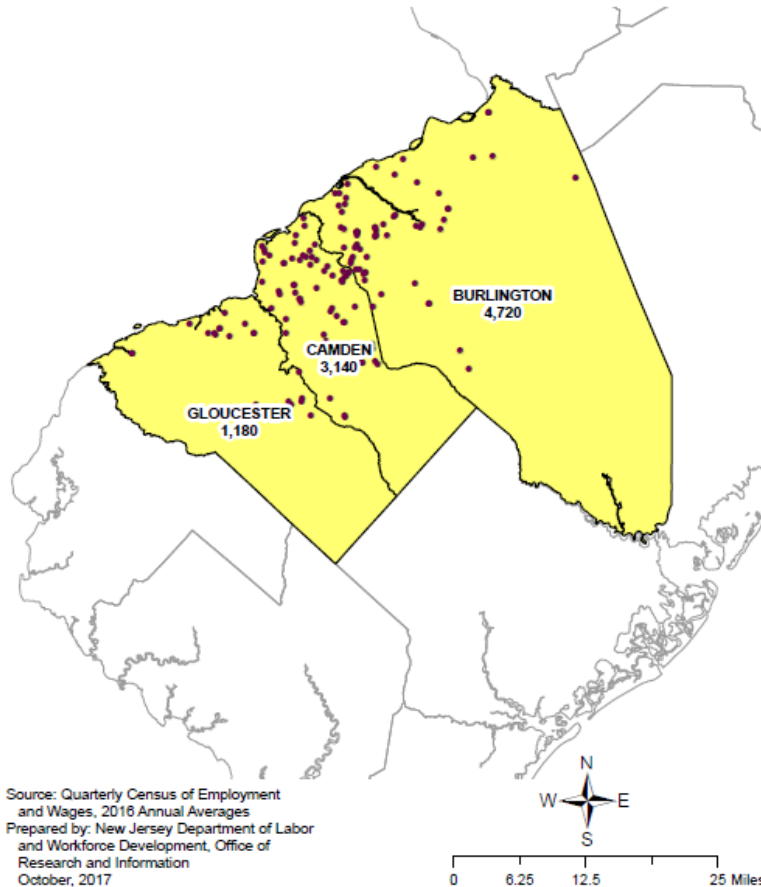


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Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
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NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER COUNTIES IN THE SOUTHERN REGION

*Life Sciences Employment and Establishment Locations
Southern Region of New Jersey, 2016*



The highlighted region to the left consists of Burlington, Camden, and Gloucester Counties.

- **Establishments** – Having a close proximity to Philadelphia, PA these three counties account for eight percent of all life sciences industry establishments in New Jersey.
- **Employment** – The three counties have slightly more than 9,040 employment.
- **Average Wage** – The average wage for these counties in life sciences related industries is below the statewide total average in this cluster (\$96,490 vs. \$140,770). These counties also account for 5.0 percent of total life sciences annual average wages paid in 2016.



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Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
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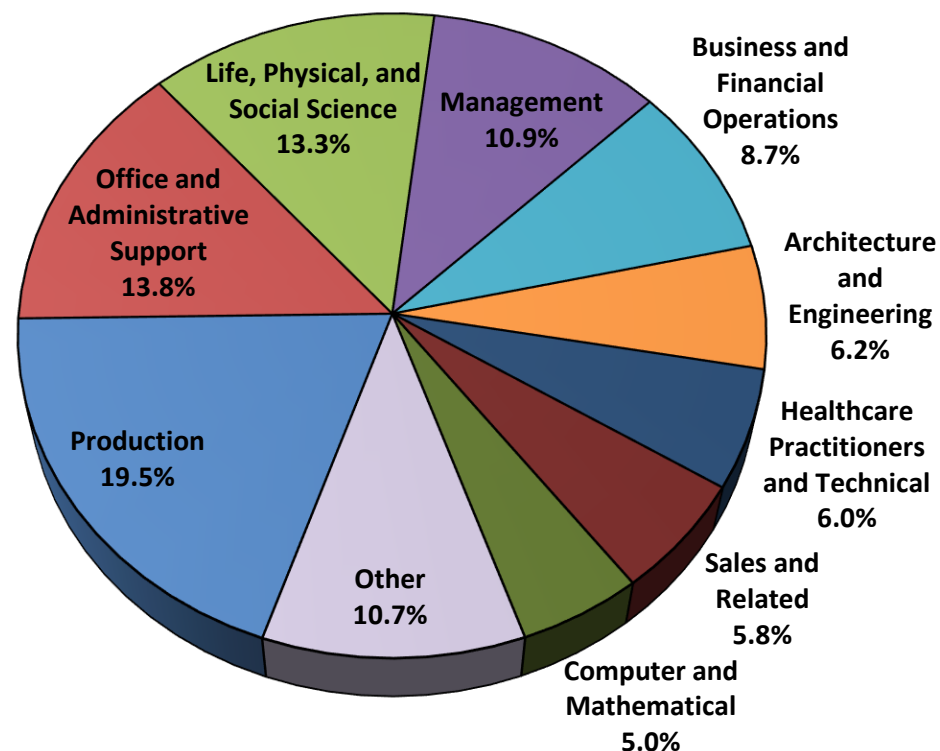
LIFE SCIENCES INDUSTRY CLUSTER: OCCUPATIONAL ANALYSIS



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER TOP OCCUPATIONAL GROUPS, 2017

Occupational Title	2017 Employment	2017 Average Salary
All Life Sciences Occupations	121,140	\$83,320
Production	23,040	\$41,830
Office and Administrative Support	16,350	\$44,780
Life, Physical, and Social Science	15,740	\$111,100
Management	12,920	\$179,630
Business and Financial Operations	10,290	\$95,810
Architecture and Engineering	7,320	\$104,970
Healthcare Practitioners and Technical	7,090	\$73,690
Sales and Related	6,900	\$93,180
Computer and Mathematical	5,930	\$112,310
Healthcare Support	4,110	\$36,060
Transportation and Material Moving	3,780	\$34,200
Installation, Maintenance, and Repair	2,570	\$59,790

Life Sciences Industry Cluster



Note: Due to disclosure issues, of the total 121,140 jobs identified, only 97.6% could be used for this occupational analysis.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER INDUSTRY CLUSTER TOP 20 OCCUPATIONS BY EMPLOYMENT, 2017

New Jersey Life Sciences Cluster's Top 20 Occupations

NAICS and Occupational Title	2017 Employment	Education
19-2031 Chemists	4,920	Bachelor's degree
19-1021 Biochemists and Biophysicists	4,600	Doctoral or professional degree
51-9111 Packaging and Filling Machine Operators and Tenders	4,320	High school diploma or equivalent
41-4012 Sales Rep., Wholesale and Manufacturing, Except Technical and Scientific Products	3,780	High school diploma or equivalent
51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers	3,200	High school diploma or equivalent
43-4051 Customer Service Representatives	3,180	High school diploma or equivalent
29-2010 Clinical Laboratory Technologists and Technicians	2,560	Bachelor's degree
31-9097 Phlebotomists	2,370	Postsecondary non-degree award
19-4031 Chemical Technicians	2,230	Associate's degree
53-7062 Laborers and Freight, Stock, and Material Movers, Hand	2,220	No formal educational credential
11-9121 Natural Sciences Managers	2,190	Bachelor's degree
51-9023 Mixing and Blending Machine Setters, Operators, and Tenders	1,970	High school diploma or equivalent
51-9011 Chemical Equipment Operators and Tenders	1,940	High school diploma or equivalent
53-7064 Packers and Packagers, Hand	1,810	No formal educational credential
51-2028 Electrical, electronic, & electromechanical assemblers, except coil winders, tapers, & finishers	1,790	High school diploma or equivalent
51-1011 First-Line Supervisors of Production and Operating Workers	1,740	High school diploma or equivalent
11-1021 General and Operations Managers	1,730	Bachelor's degree
11-2021 Marketing Managers	1,520	Bachelor's degree
43-4171 Receptionists and Information Clerks	1,490	High school diploma or equivalent
13-1161 Market Research Analysts and Marketing Specialists	1,480	Bachelor's degree



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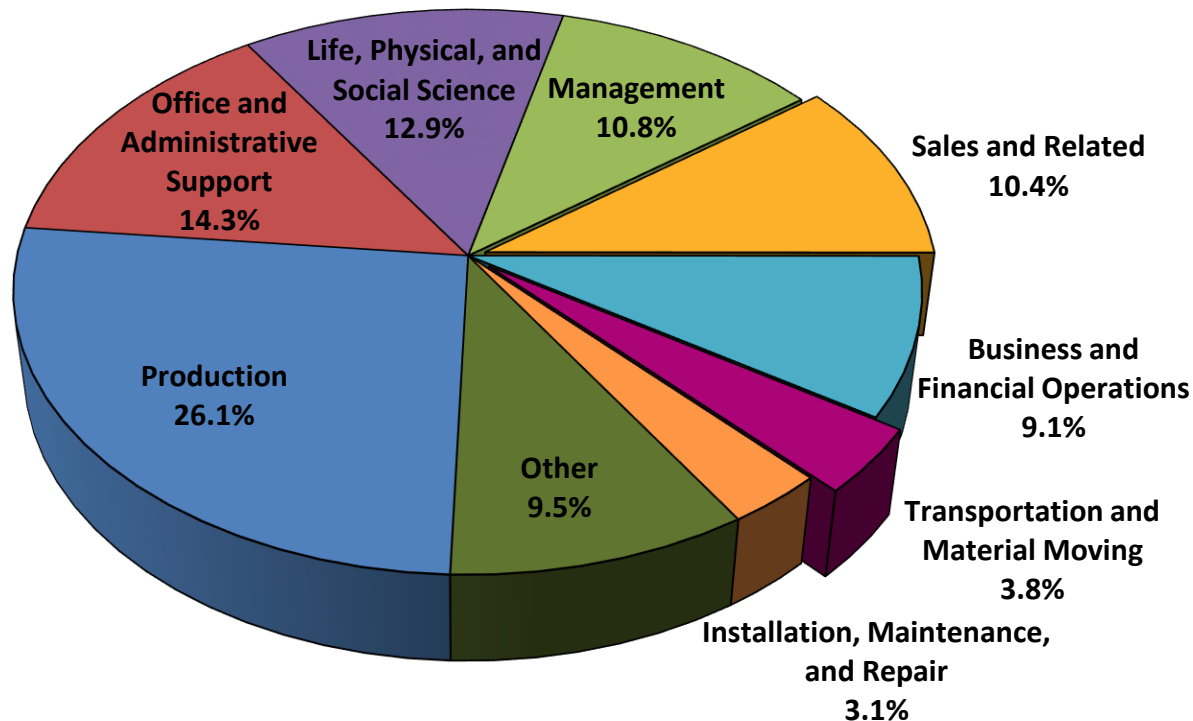


Source: NJ Department of Labor & Workforce
Development, Occupational Employment Statistics,
May 2017

Prepared by: New Jersey Department of Labor and
Workforce Development, August 2018

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER PHARMACEUTICAL COMPONENT, 2017

Major Occupational Group Breakdown



An occupational analysis of 52,630 jobs revealed that five major occupational groups in this component accounted for nearly three-fourths (74,4%) of the employment.

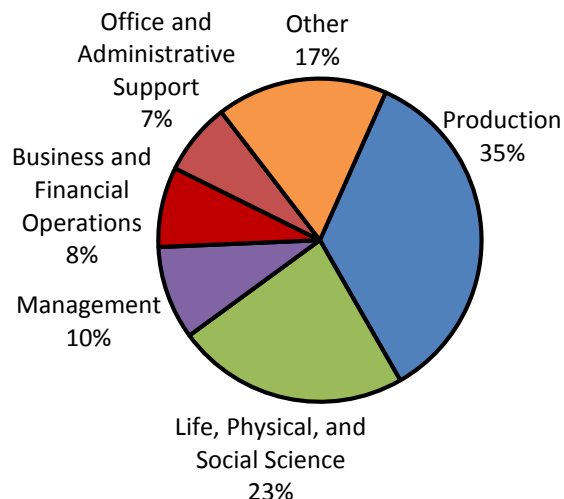
Sales and related and transportation and material occupational groups are in the top seven components for the pharmaceuticals sub sector and not for the total industry cluster.

Note: Due to disclosure issues, of the total 55,030 jobs identified, only 52,630 could be used for this occupational analysis.

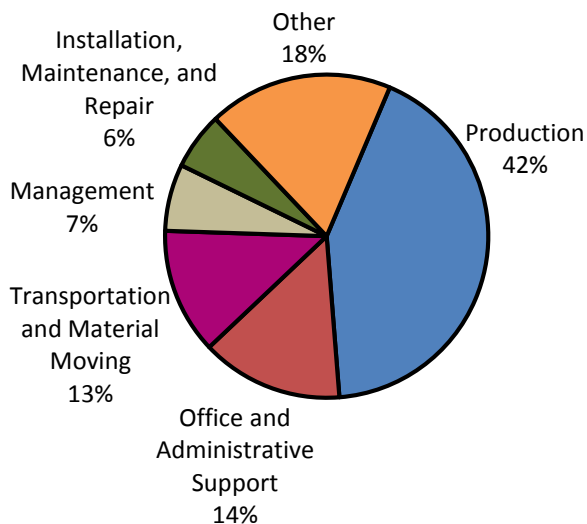
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

PHARMACEUTICAL'S MAJOR OCCUPATIONAL GROUPS, 2017

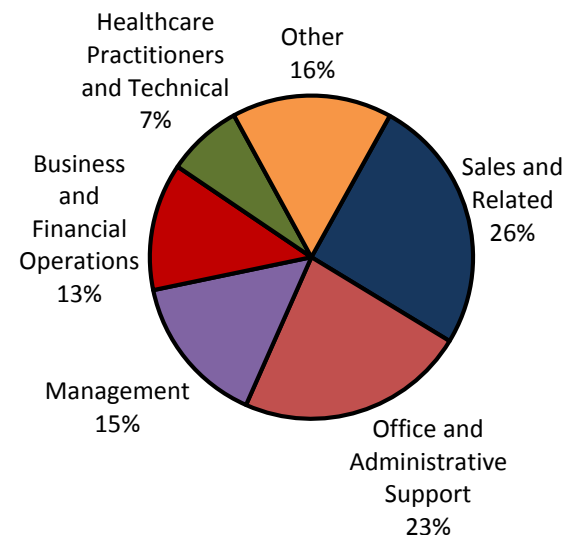
Pharmaceutical & Medicine Manufacturing



Soap, Cleaning Compound, & Toilet Preparation Manufacturing



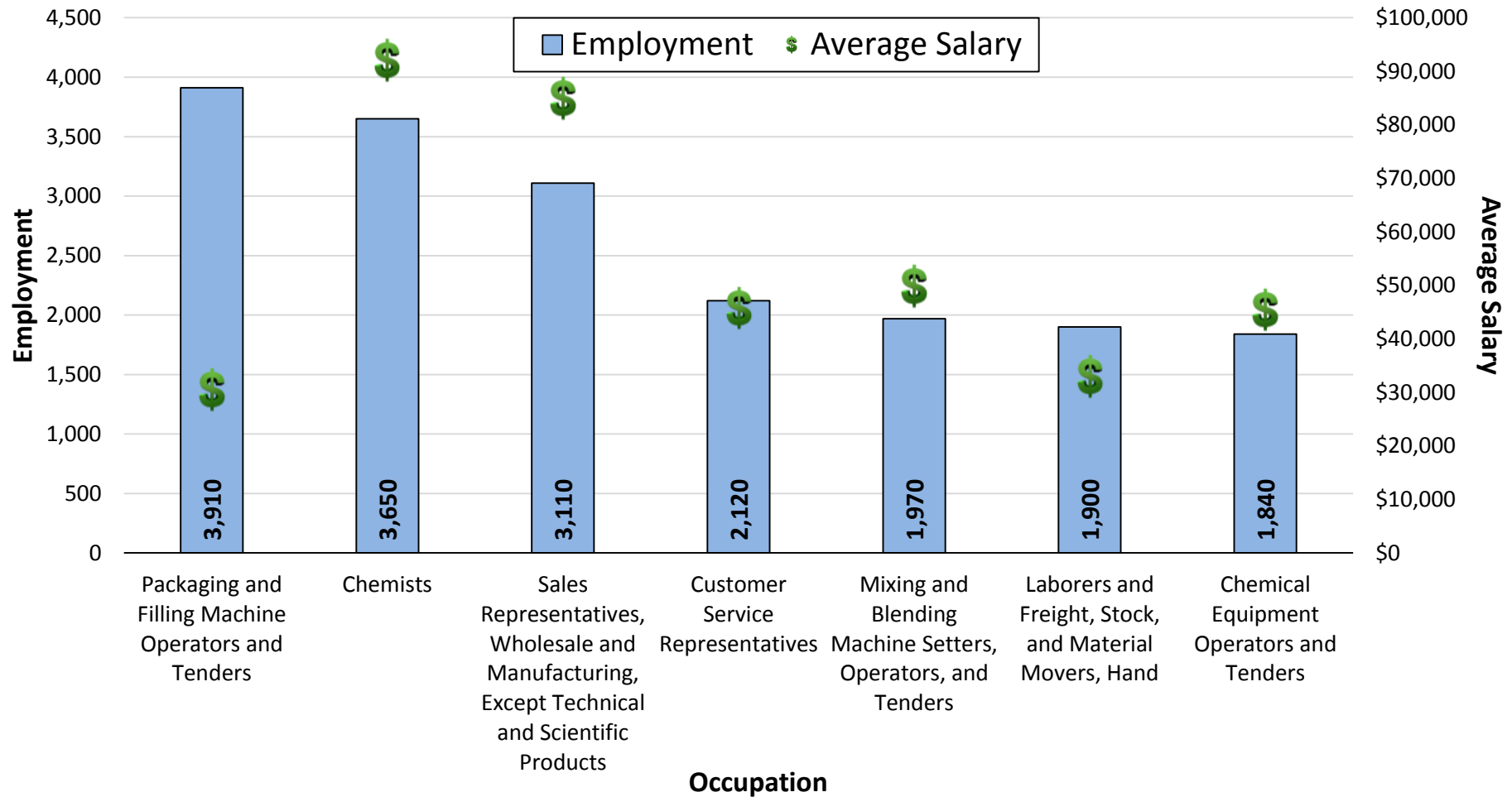
Drugs & Druggists' Sundries Merchant Wholesalers



- In all three industry groups, office & administrative support workers account for a significant portion of the employment.
- A majority of occupations in pharmaceutical and medicine manufacturing and soap, cleaning compound, and toilet preparation manufacturing are production related while occupations in drugs & druggists sundries merchant wholesalers are sales and related occupations.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

TOP PHARMACEUTICAL OCCUPATIONS, 2017



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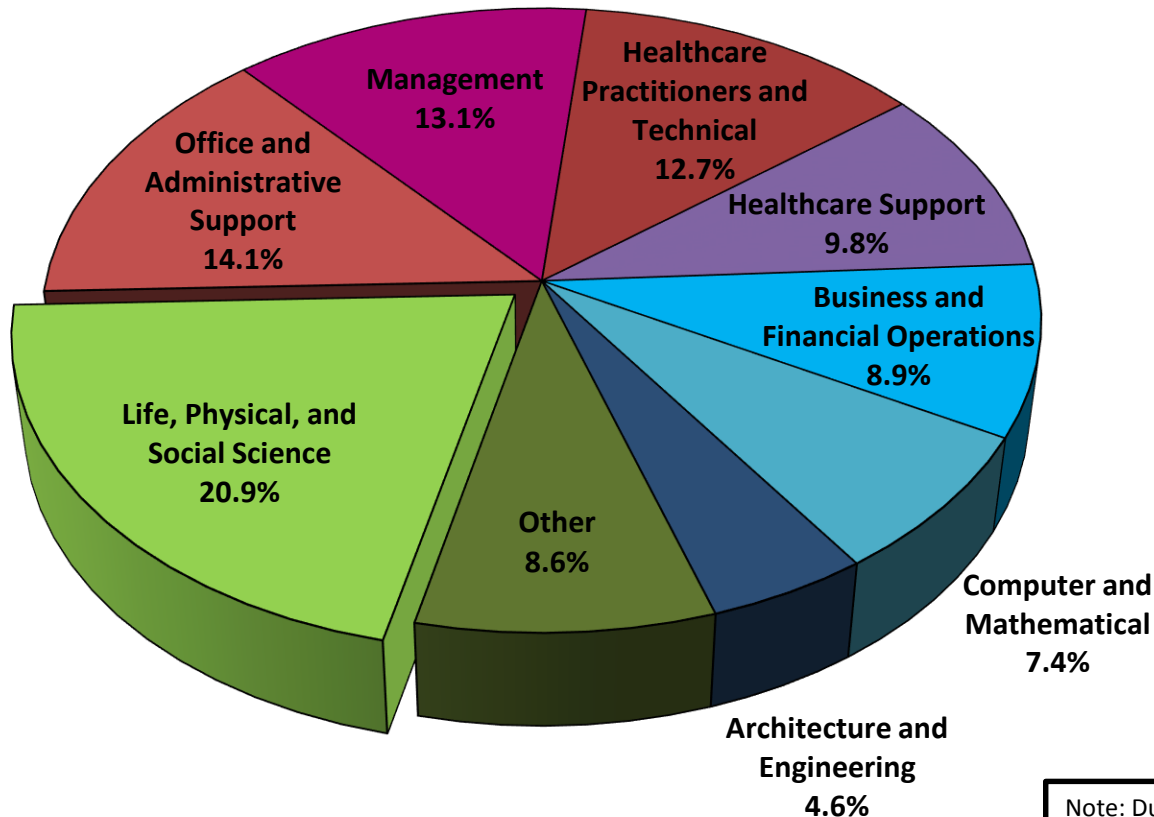


Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2017

Prepared by: New Jersey Department of Labor and Workforce Development, August 2018

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER BIOTECHNOLOGY (R&D) COMPONENT, 2017

Major Occupational Group Breakdown



An occupational analysis of 42,020 jobs revealed that five major occupational groups in this component accounted for nearly three-fourth (70.5%) of the employment.

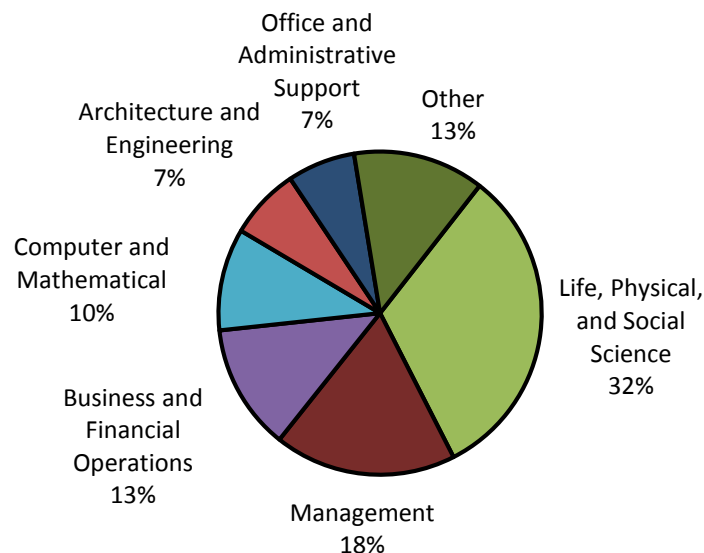
Life, physical, and social science occupations employed the most in this component with approximately 8,770 jobs, and accounted for more than one-fifth of the component.

Note: Due to disclosure issues, of the total 42,510 jobs identified, only 42,020 could be used for this occupational analysis.

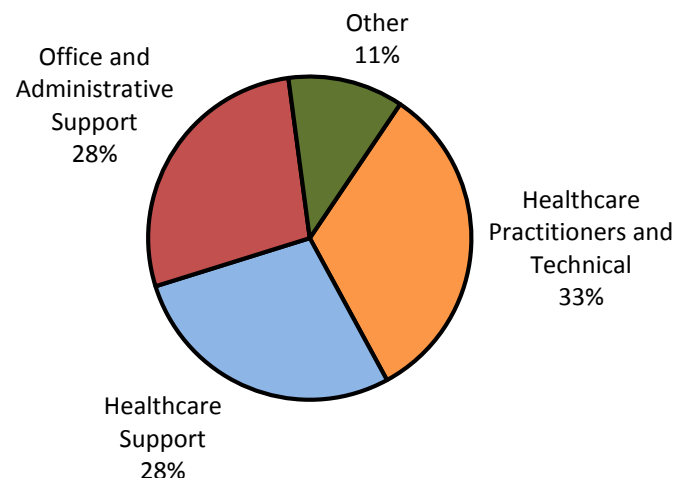


NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER BIOTECHNOLOGY (R&D) MAJOR OCCUPATIONAL GROUPS, 2017

Scientific Research & Development Services

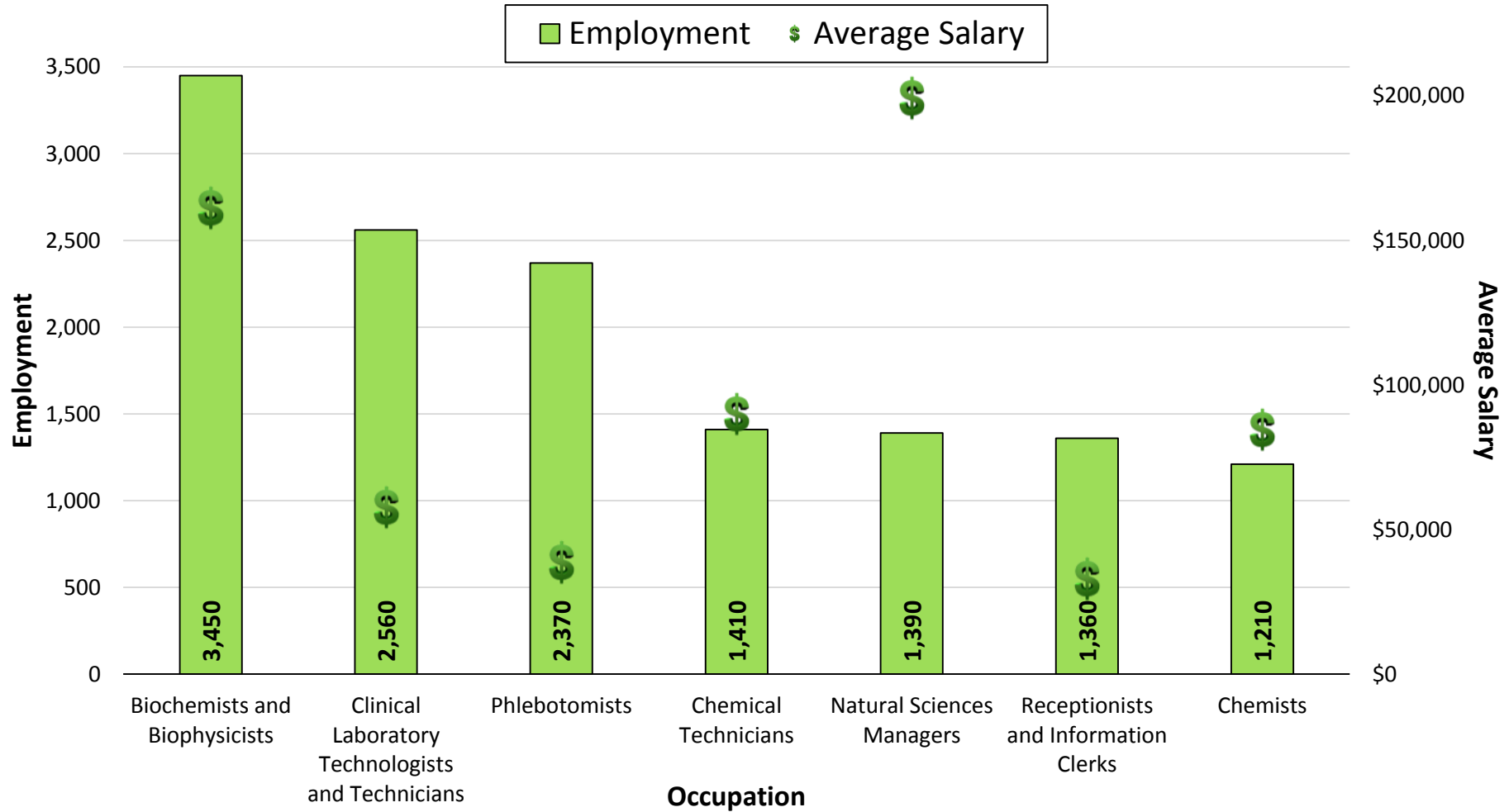


Medical and Diagnostic Laboratories



- Biotech's occupational groups show that these industry groups utilize a significant portion of professional, scientific, and technical workers with in-depth skills and knowledge related to science and healthcare.
- Nearly 90% of occupations found in the medical and diagnostic laboratories can be found in three major occupational groups: office and administrative support, healthcare support, and healthcare practitioners and technical.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER TOP BIOTECHNOLOGY (R&D) OCCUPATIONS, 2017



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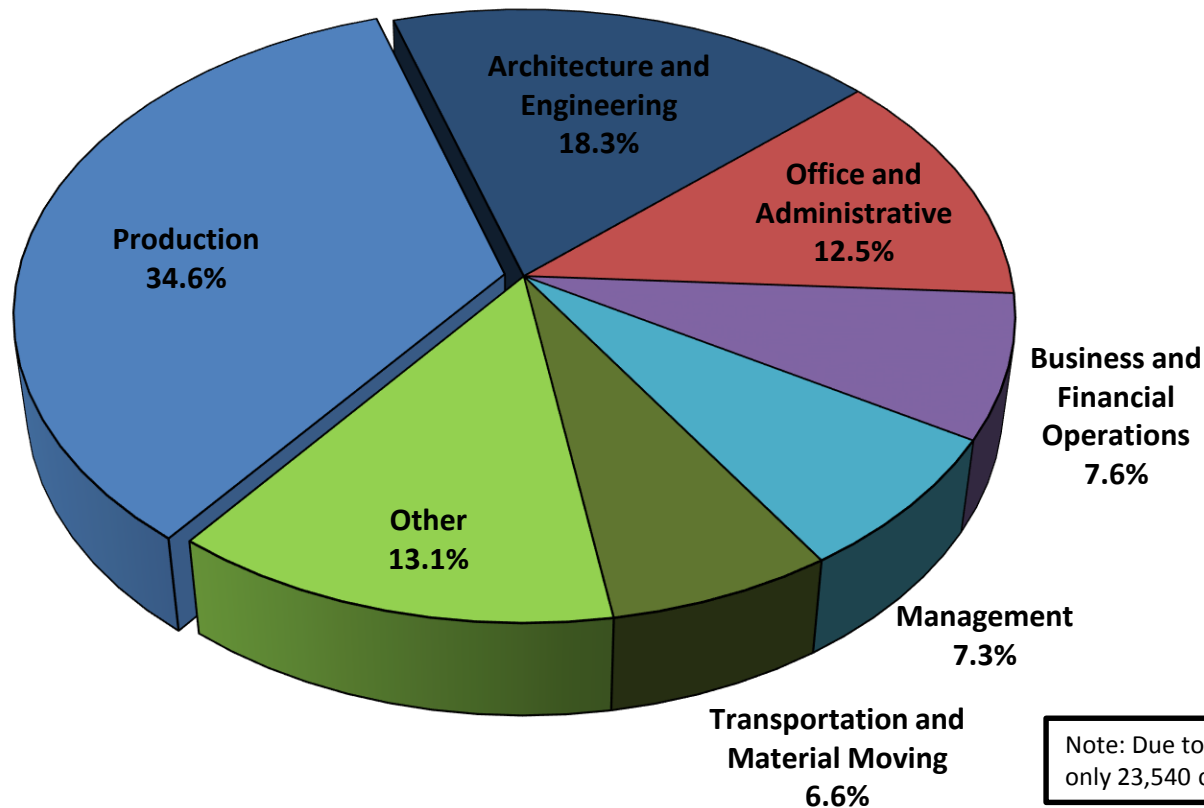
NEW JERSEY DEPARTMENT OF
LWD
LABOR AND WORKFORCE DEVELOPMENT
nj.gov/labor

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2017

Prepared by: New Jersey Department of Labor and Workforce Development, August 2018

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER MEDICAL DEVICE COMPONENT, 2017

Major Occupational Group Breakdown



An occupational analysis of 23,540 jobs revealed that five major occupational groups in this component accounted for more than three-fourths of the employment (80.3%).

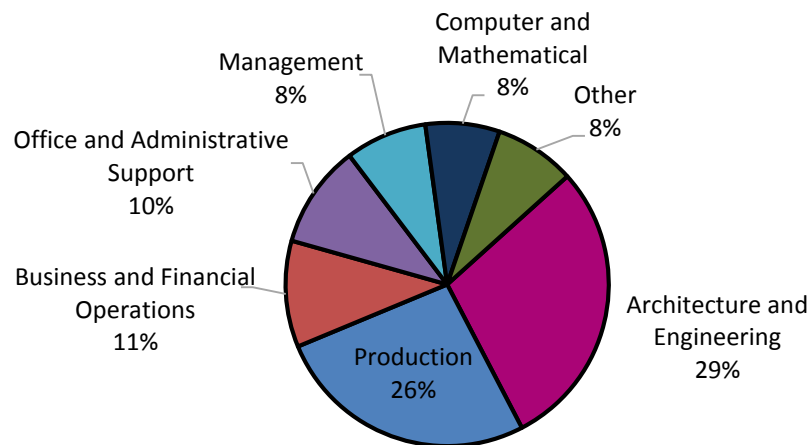
Production occupations employed the most in this component with 8,140 jobs, and accounted for more than one-third of the component (34.6%).

Note: Due to disclosure issues, of the total 23,600 jobs identified, only 23,540 could be used for this occupational analysis.

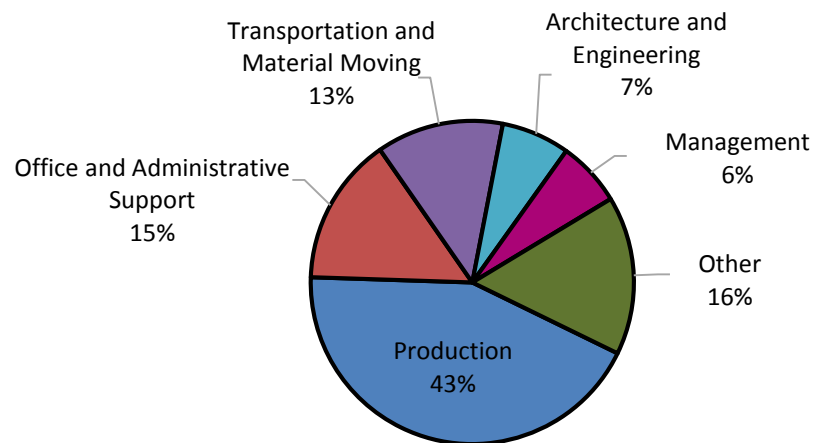
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

MEDICAL DEVICES MAJOR OCCUPATIONAL GROUPS, 2017

Navigational, Measuring, Electromedical, & Control Instruments Manufacturing

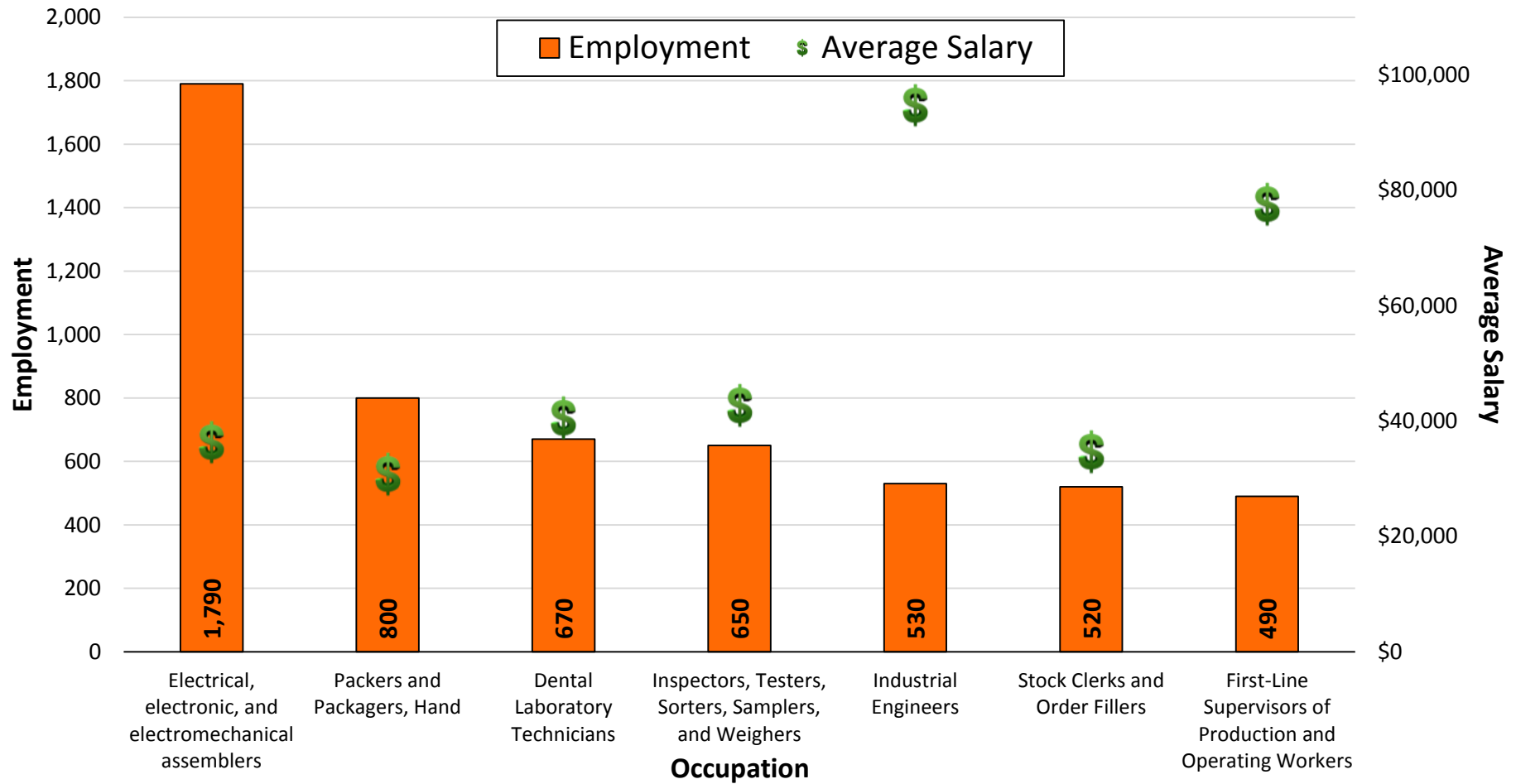


Medical Equipment and Supplies Manufacturing



- While the percentages differ, the top occupational groups reveal that these two industry groups both have a need for many of the same type of workers.
- Occupations found in the medical devices component are production and architecture and engineering based, but other occupational family groups that make up a significant percentage are office and administrative support, and business and financial operations.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER TOP MEDICAL DEVICE OCCUPATIONS, 2017



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Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2017

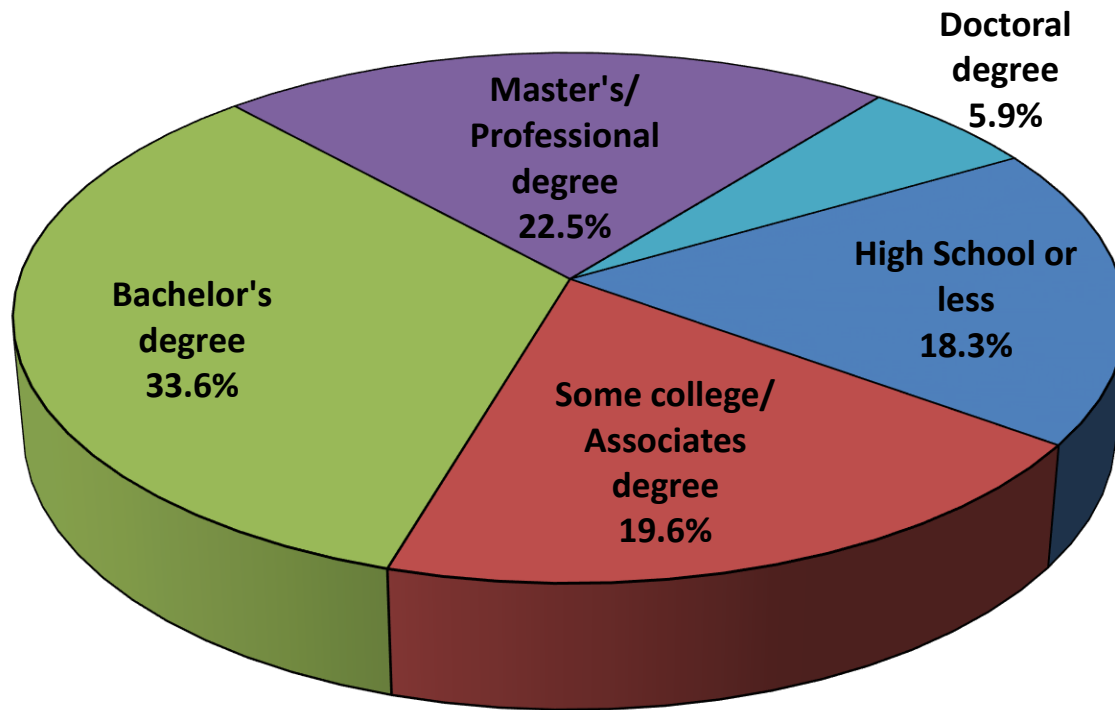
Prepared by: New Jersey Department of Labor and Workforce Development, August 2018

LIFE SCIENCES INDUSTRY CLUSTER: DEMOGRAPHIC OVERVIEW



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER EDUCATION CHARACTERISTICS

Educational Breakdown



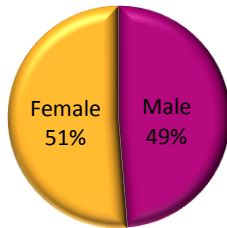
- It is often mentioned that life sciences related employers require a well-educated and highly skilled workforce to meet the high level and technical demands of many of the occupations they need to fill.
- Nearly two-thirds of New Jersey's workforce employed in this cluster hold at least a Bachelor's degree, many holding even more advanced degrees.



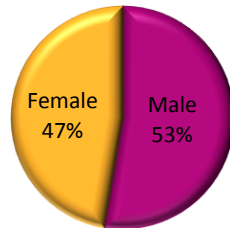
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NJ RESIDENTS IN LIFE SCIENCES INDUSTRY CLUSTER WORKFORCE

Life Sciences



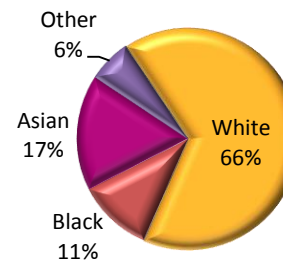
All Industries



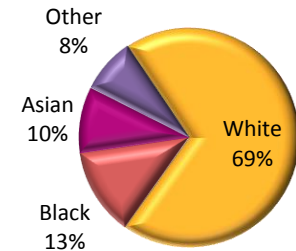
Females outnumber males by 2.6 % in this cluster

The life sciences workforce has a greater proportion of NJ residents who are Asian (16.8%)

Life Sciences

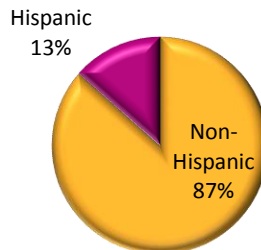


All Industries

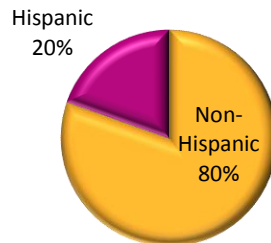


The life sciences workforce has fewer Hispanics than average

Life Sciences



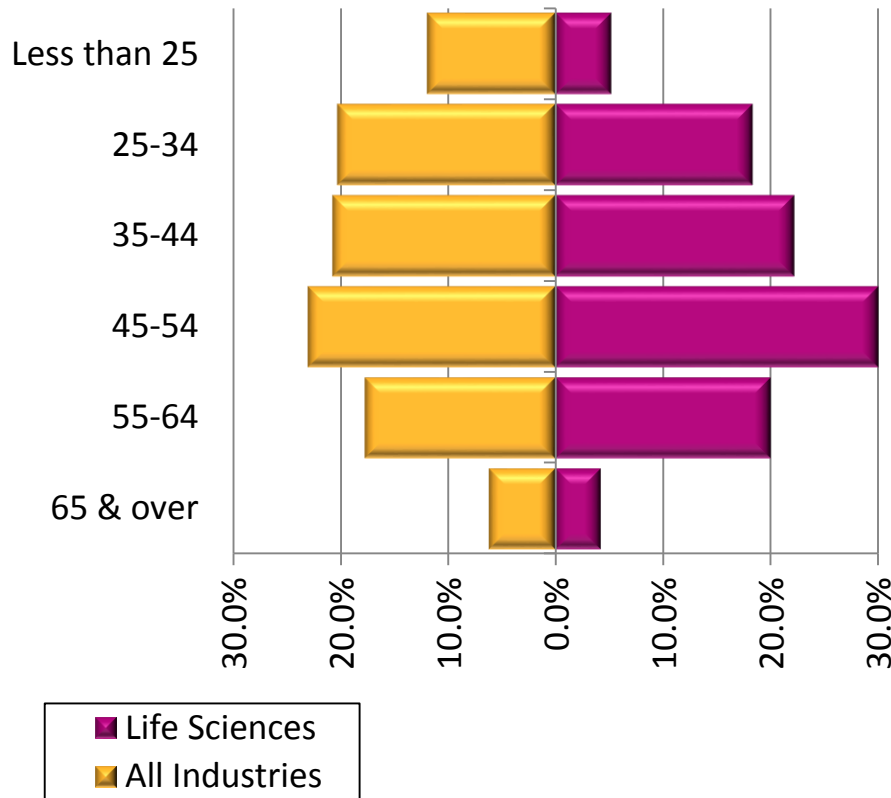
All Industries



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

LIFE SCIENCES INDUSTRY CLUSTER VS. TOTAL NONFARM

Age Breakdown of Workers in Life
Sciences and All Industries
New Jersey, 2016



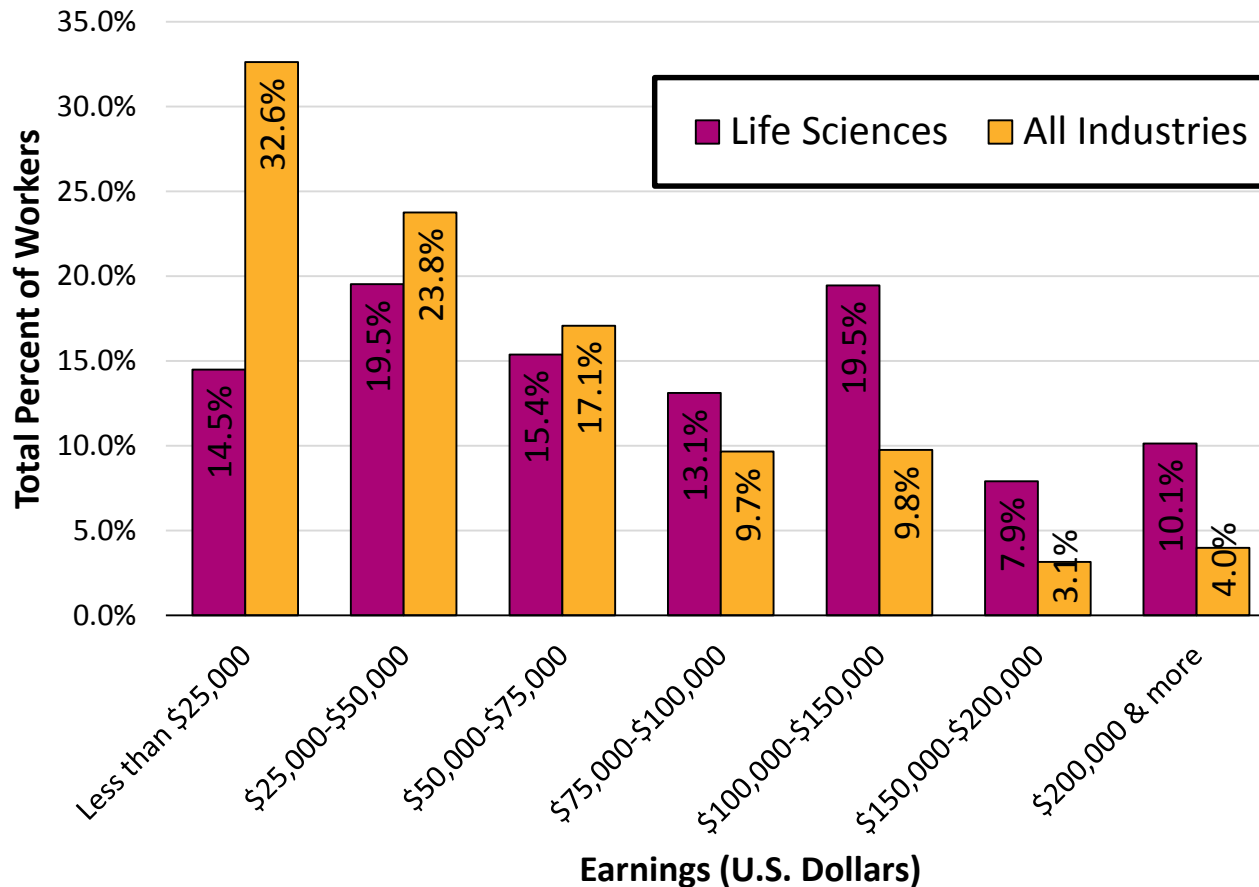
- The workforce of the life sciences industry is older than average with 54.2 percent aged 45 and up compared to only 47 percent overall.
- The largest disparity among age cohorts occurs in the 45-54 year old age group, where 30 percent of the life sciences industry cluster is found.
- 4.2 percent of the current NJ resident life sciences workforce is aged 65 and older.



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

NJ RESIDENTS PERSONAL EARNINGS

Personal Earnings in New Jersey, 2016



- Nearly two-thirds of the worker (66%) in this cluster earned over \$50,000, whereas 56.4% of all workers (in all industries combined) earned less than \$50,000.
- The percentage of workers making \$150,000 or greater is almost a 3:1 ratio in favor of this cluster.



LIFE SCIENCES INDUSTRY CLUSTER: TOP OCCUPATIONS OUTLOOK



NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER

TOP LIFE SCIENCES OCCUPATIONS OUTLOOK ACROSS ALL INDUSTRIES

Occupational Title	Employment				Average Annual		
	Actual	Projected	Change 2014 - 2024		Job Openings		
	2014	2024	Number	Percent	Total	Growth	Replacement
Phlebotomists	4,880	5,890	1,010	20.7	200	100	100
Laborers & Freight, Stock, & Material Movers, Hand	83,850	95,360	11,510	13.7	3,650	1,150	2,500
Medical & Clinical Laboratory Technologists	4,850	5,470	620	12.8	180	60	120
Biochemists & Biophysicists	3,700	4,130	430	11.6	140	40	100
Packers & Packers, Hand	30,170	33,280	3,110	10.3	1,110	310	800
Customer Service Representatives	66,030	71,660	5,630	8.5	2,190	560	1,630
General & Operations Managers	47,200	51,150	3,960	8.4	1,590	400	1,200
Pharmacy Technicians	9,200	9,890	700	7.6	160	70	90
Natural Sciences Managers	4,090	4,390	310	7.5	120	30	90
Chemical Technicians	4,430	4,630	200	4.6	150	20	130
Packaging & Filling Machine Operators & Tenders	14,610	15,020	420	2.8	560	40	520
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	43,610	44,820	1,210	2.8	1,020	120	900
Secretaries & Administrative Assistants, Except Legal, Medical, and Executive	65,690	66,020	330	0.5	730	30	690
Chemists	5,520	5,540	20	0.3	120	0	120
Industrial Engineers	3,760	3,730	-30	-0.9	110	0	110
Inspectors, Testers, Sorters, Samplers, & Weighers	10,490	10,340	-150	-1.4	260	0	260
First-Line Supervisors of Production & Operating Workers	13,850	13,440	-400	-2.9	220	0	220
Mixing & Blending Machine Setters, Operators, & Tenders	4,900	4,650	-250	-5.1	110	0	110
Chemical Equipment Operators & Tenders	3,040	2,700	-340	-11.3	100	0	100
Extruding, Forming, Pressing, & Compacting Machine Setters, Operators, & Tenders	3,830	3,370	-460	-12.0	140	0	140



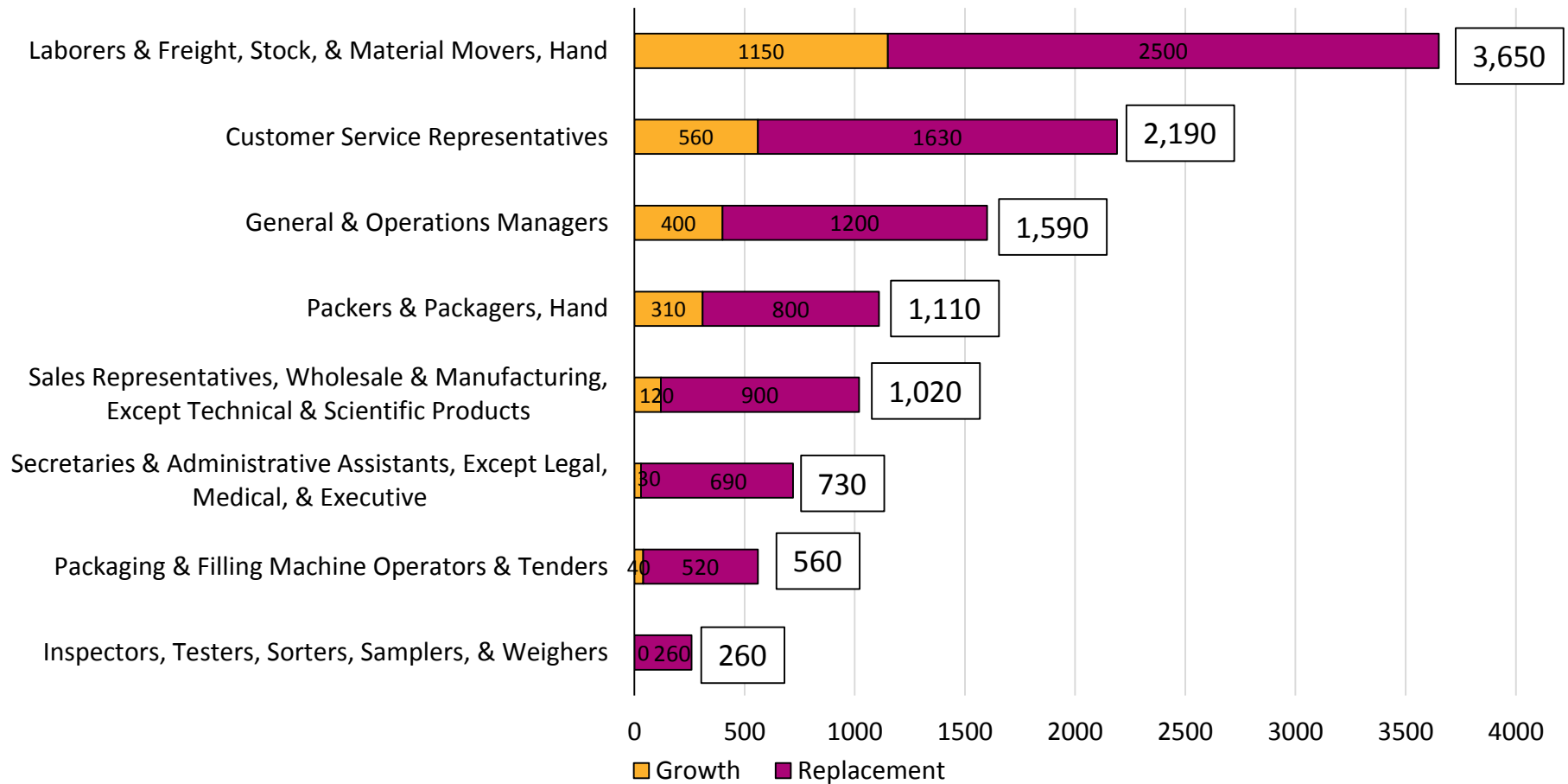
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Source: New Jersey Department of Labor and Workforce Development, 2014–2024 Industry and Occupational Employment Projections.
Prepared by: New Jersey Department of Labor and Workforce Development, August 2018

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER PROJECTED ANNUAL AVERAGE OPENINGS FOR TOP OCCUPATIONS

2014-2024 Projected Annual Average Job Openings



STATE OF NEW JERSEY
DEPARTMENT OF LABOR AND
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Source: New Jersey Department of Labor and Workforce Development, 2014–2024 Industry and Occupational Employment Projections.

Prepared by: New Jersey Department of Labor and Workforce Development, August 2018

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Trenton, NJ 08625-0057

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http://lwd.dol.state.nj.us/labor/lpa/LMI_index.html

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